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**BOMBERS**

**CARGO**

**FIGHTERS**

**GLIDERS**

# TACTICAL PLANNING

## *Characteristics & Performance Chart*

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PUBLISHED BY AUTHORITY OF THE COMMANDING GENERAL  
ARMY AIR FORCES, BY THE CHIEF, ENGINEERING DIVISION, AIR  
TECHNICAL SERVICE COMMAND, WRIGHT FIELD, DAYTON, OHIO

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*New Charts*  
Pages 8 and 39

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# TACTICAL PLANNING

## Characteristics & Performance Chart

**BOMBERS**

*Encl file*

*1 Nov. 1944*

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## FOREWORD

This chart is a supplement to the Quarterly Chart of Engineering Characteristics and Performance, EE-306-1, "Production". This issue covers typical models now in theater operation and is kept up to date as new models are received by the A.A.F.

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.*

Performance is based on the requirements of Army-Navy Aeronautical Specification AN-H-8a; "Handbooks, Pilot's Flight Operating 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 for 10% net ideal range for miscellaneous differences in airplanes, equipment, pilot technique, atmospheric conditions other than wind, unusable fuel, weight, and similar variables. (For example, range varies day and night due to fuel expansion prior to take off.)

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.

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## DEFINITIONS

## CHARACTERISTICS

**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:** Maximum cruise power is the maximum power for unlimited operation with lean mixture.

**SIZE:** Approximate 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 maximum weight for special missions only.

**FUEL:** Standard fuel tankage and capacities.

**ARMAMENT:** Resume' of information in the "ARMAMENT & BOMB INSTALLATIONS" (Chart EE-306A)

**RADIO** Resume' of typical models installed.

## PERFORMANCE

**BOMBS:** Maximum rack capacity for standard sizes.

**CARGO:** Cargo, passenger or troop capacities. One size only on each bomb rack (in some cases a reduction in fuel load is required) Practical total cargo based on gross weight. Values are at least 125% of optimum.

**TAKE OFF & LANDING:** (At 3000' runway alt.)

**Gross weight:** Arbitrary values for reference only. Distances representative of minimum airport requirements.

**(To clear 50')** Distances representative of minimum runway 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).

**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 2

**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.

Preliminary estimates or calculated data.

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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-.50 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 21-100	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 21-100	2-1000 2-2000 2-1600 2-1000	6-1600 2-1000x	AS ABOVE
B-17F-BO -55 thru 1st.30(-85)	2) 1) 2) 2) 2)	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 -75) 3630 -50 & SUB.
B-17F-BO last 70(-85) thru -130	3) 1) 2) 2) 2)	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 -110)	2) 2) 2) 2) 2)	Tot 610 365 300 500 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 21-100	PROVISION FOR RACKS	9600	AS ABOVE

NOTES: a NOSE GUN DELETED ON LAST 55 (-27). d EARLY B-17F 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 21-100	NONE	9600	2550
B-17F-DL Last 12(-10) thru -20	2) 1) 2) 2) 2)	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.	AS ABOVE	AS ABOVE
B-17F-DL -25 thru 1st.21(-35)	A S	A B O V E	AS ABOVE	PROV. FOR EXTERNAL RACKS	AS ABOVE	AS ABOVE	3630
B-17F-DL Last 19(-35) thru -65	3) 1) 2) 2) 2)	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	AS ABOVE
B-17G-DL (-1 thru -65)	2) 2) 2) 2) 2)	Tot 610 365 300 500 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 NO NOSE GUN ON 1st.13(-10) d EARLY B-17G MODELS CARRY 300 RDS./GUN.  
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 IN 1st. 12 AIRPLANES; NOSE GUN DELETED ON NEXT 28 THRU (-10). NO RADIO COMPARTMENT GUN UNTIL LAST 24(-15). OTHER ARMAMENT AS B-17F.	2-2000 6-1600 6-1000 12-500 16-250 21-100	NONE	9600	2550
B-17F-VE (-15 & -20)	2) 1) 2) 2) 2)	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.	AS ABOVE	AS ABOVE
B-17F-VE (-25 & -30)	A S	A B O V E	AS ABOVE	2-1000 2-2000 2-1600 2-1000	b	6-1600 2-1000x 17600	2550 (B-17F-25) 3630 (B-17F-30)
B-17F-VE (-35 thru -50)	3) 1) 2) 2) 2)	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 -90)	2) 2) 2) 2) 2)	Tot 610 365 300 500 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.  
ARMOR 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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AS OF:  
DATE 21 OCT 1944

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	FOR DETAILED ARMAMENT AND BOMB INSTALLATIONS SEE PAGE OPPOSITE	
B-17F	4	WRIGHT R-1520-97 TURBO HAMILTON STD. 11"7" DIA. - 3BL. F.F. HYDROMATIC	T 1200/S L M 1200/27000 C 1000/30000	S 103'9" L 74'9" H 19'1" T 21'2" W 1120 SQ. FT.	B 36000 C 55000 R 56000 W 65000	10	MAIN - WINGS BOMB BAY	6-1730 2x 410 2550 TOT	2) 300 1) .50 2) 300 2) 500 2) 565	300	NOSE - FLEX. SIDE WAIST-FL. RADIO COMPART. UPPER TURRET LOW BALL TURRET TAIL - FLEX. MT.	2-2000 6-1600 6-1000 12-500 16-250 24-100	2-1000 2-2000 2-1600 2-1000	C 6-1600 b 2-1000	SEE NOTE (B)	TECHNICAL ORDER 01-208F-1. (20 JUNE 1944) EXTERNAL BOMBS ON SOME MODELS ONLY.	
B-17F (WITH WING TIP TANKS)	4	AS ABOVE	AS ABOVE	AS ABOVE	B 38000 C 55000 R 56000 W 72000A	10	MAIN - WINGS WING TIPS BOMB BAY	6-1730 2x 540 2x 410 3650 TOT	3) 300 1) .50 2) 300 2) 500 2) 565	300	NOSE - FLEX. SIDE WAIST-FL. RADIO COMPART. UPPER TURRET LOW BALL TURRET TAIL - FLEX. MT.	A S	A B O V E	AS ABOVE	A S A B O V E		
B-17G	4	AS ABOVE	T 1200/S L M 1200/32700 C 1000/35200	S 103'9" L 74'4" H 19'1" T 21'2" W 1120 SQ. FT.	B 38000 C 55000 R 56000 W 72000A	10	AS ABOVE EXCEPT PROVISIONS FOR THE BOMB BAY TANKS	6-1730 2x 540 2x 410 3650 TOT	3) 300 1) .50 2) 300 2) 500 2) 565	300	NOSE - FLEX. SIDE WAIST-FL. RADIO COMPART. UPPER TURRET LOW BALL TURRET TAIL - FLEX. MT.	AS ABOVE	PROV. FOR EXTERNAL RACKS	AS ABOVE	TECHNICAL ORDER 01-208G-1 (REV. 15 AUG. 1944) EARLY MODELS CARRY 300 RDS. PER GUN. EARLY MODELS HAD LENGTH OF 74'9". EARLY B-17G'S HAD B-2 TURBO GIVING CRITICAL ALTITUDE AS SHOWN FOR B-17F.		

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 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		
GROSS WEIGHT LB.	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 OF CLIMB MIN.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.
B-17F	40000	-	3900	90	-	2000														
B-17F (WITH WING TIP TANKS)	50000	-	4750	100	-	2700														
B-17G	40000	-	3000	90	-	1200														
	45000	-	3500	95	-	1500														
	50000	3150	3950	100	2500	1900	30000	295	350	268	-	-	65500	NONE	3630	-	-	-	-	-
	55000	3950	4500	104	3050	2400	25000	287	390	263	210	54.0	59500	NONE	2810	1100	7.0	1500	6.9	2000
	60000	4800	5200	108	3700	2000	20000	277	450	255	385	37.0	65500	4000	2810	1100	7.0	1450b	6.9b	1950
	65000	5300	-	-	4900	1500	15000	267	500	245	500	26.0	65500	6000	2810	1100	7.0	-	1800	11.1
							10000	256	1000	234	580	16.0	59000	6000	1730	850	4.2	850	4.2	1200
							5000	246	1100	223	520	7.0								1050
																				5.7
																				1160
																				9.0

NOTES: (B) 24 VOLT RADIO SYSTEM


- SCR-211 FREQUENCY METER
- SCR-2699 RADIO COMPASS
- SCR-271W COMMAND SET
- SCR-287A LIAISON SET
- SCR-695 SET (or SCR-995)
- SCR-578 EMERGENCY TRANSMITTER
- RC - 32 FILTER EQUIPMENT (or RC-196)
- RC - 36 INTERPHONE AMPLIFIER
- RC - 138 MARKER BEACON
- RC - 103 BLIND LANDING (Provisions only)
- SCR-522 COMMAND SET

NEED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

(A) THREAT REPORTS INDICATE LOADINGS IN EXCESS OF 65000 LB. ARE BEING USED. IT IS ABSOLUTELY ESSENTIAL THAT WING FUEL & OIL TANKS ARE FULL AT THESE WEIGHTS & THAT MANEUVERS BE KEPT TO A MINIMUM.

(B) LATEST INVESTIGATION SHOWS THAT 8-1600 LB. ARMOR PIERCING BOMBS MAY BE CARRIED BUT BOMB RAIL LOAD FACTORS & CLEARANCES ARE REDUCED & MANEUVERING OF AIRPLANE MUST BE LIMITED ACCORDINGLY.

MANUFACTURED BY BOEING - DOUGLAS - VEGA



**B-17**  
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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-21D-CO D thru 1st.94(-15)	1) 2) 2)	200 400 400	NOSE.....FLEX. UPPER TURRET TAIL TURRET	4-2000 8-1000 12- 500 12- 250 20- 100	NONE	8000	2364
B-21D-CO Last 36(-15) thru -20	1) 2) 2)	200 400 400	NOSE.....FLEX. UPPER TURRET TUNNEL...FLEX. TAIL TURRET	A S	A B O V E		2364 last 36(-15) 3614 -20 & sub.
B-21D-CO -25 thru 1st.25(-110)	3) 2) 2) 1) 2)	100 250 400 100 400	NOSE.....FLEX. SIDE WAIST..FL. UPPER TURRET TUNNEL...FLEX. TAIL TURRET	4-2000 8-1500 8-1000 12- 500 12- 250 20- 100	NONE	12800	3614
B-21D-CO Last 9(-110) thru -170	3) 2) 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-21J-CO (-1 thru -210) B-21J-CO (-1 thru -20) B-21M-CO (-1 thru -10)	2) 2) 2) 2) 2)	400 250 <sup>b</sup> 400 508 400	NOSE TURRET SIDE WAIST..FL. UPPER TURRET LOW.BALL TRR. See "c"	A S	A B O V E		AS ABOVE

NOTES: c B-21J's HAVE TAIL TURRET; B-21L's HAVE HAND HELD GUNS IN TAIL & B-21M's HAVE LIGHT WEIGHT TAIL TURRET.  
a NOT ON B-21D-25  
b E-6 MOUNT & INCREASE TO 500 RDS/GUN ON -210.

CONSOLIDATED (FT. WORTH) "CP"

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-21D-CF (-1 & -5)	3) 2) 2) 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-21D-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-21J-CF (-1 thru -105) B-21H-CF (-1 thru -15)	2) 2) 2) 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-21H-CF (-20 thru -30)	2) 2) 2) 2) 2)	400 500 <sup>b</sup> 400 508 400	NOSE TURRET S.WAIST-K6 MT. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-21J-CF (-101 to -)	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 B-21H-20 HAS PROVISIONS FOR ONLY 250 RDS. PER GUN AT SIDE WAIST POSITION.

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	EXTERNAL	MAX. LOAD LB.	
				NO & SIZE	NO & SIZE		
B-21H-DT (-1 thru -15) (DOUGLAS)	2) 2) 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-21H-FO (-1 thru -15) (FORD)	A S	A B O V E		A S	A B O V E		AS ABOVE
B-21H-DT & FO (-20 thru -30)	2) 2) 2) 2)	400 500 <sup>b</sup> 400 508 400	NOSE TURRET S.WAIST-K6 MT. UPPER TURRET LOW.BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-21J-FO (-1 thru -20) B-21J-DT (-1 thru -10)	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 B-21H-20 HAS PROVISIONS FOR ONLY 250 RDS/GUN.

NORTH AMERICAN (DALLAS) "NT"

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-21J-NT (-1 thru -15)	3) 2) 2) 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-21J-NT (-1 thru -5)	2) 2) 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-21J-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-21J-NT (-1 thru -10)	A	S	A	B	O	V	E

NOTES: a LOWER BALL TURRET ON 5th. & SUBSEQUENT; NO TUNNEL GUN ON 1st.1. ARTICLES.

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CONSOLIDATED (FT. WORTH) "CP"

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-21J-00 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-21J-00 1st 36(-15) thru -20	1) 2) .50 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-21J-00 1st 25 thru 1st. 25(-110)	3) 2) 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-21J-00 1st 9(-110) 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-21J-00 1 thru -210 B-21J-00 1 thru -20 B-21M-00 1 thru -10	2) 2) 2) .50 2) 2)	400 250 <sup>b</sup> 400 508 400	NOSE TURRET SIDE WAIST-FL. UPPER TURRET LOW BALL TRR. See "c"	A S	A B O V E		AS ABOVE

NOTES: a B-21J's HAVE TAIL TURRET; B-21L's HAVE HAND HELD GUNS IN TAIL & NOT ON B-21J-25 B-21M's HAVE LIGHT WEIGHT TAIL TURRET.  
b B-21M-20 HAS PROVISIONS FOR ONLY 250 RDS. PER GUN ON -210.  
c B-21M-20 HAS PROVISIONS FOR ONLY 250 RDS. PER GUN ON -210.

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-21J-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-21J-CF (-10 thru -20)	A S	A B O V E				12800	AS ABOVE
B-21J-CF (-1 thru -105)	2) 2) 2) .50 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-21J-CF (-20 thru -30)	2) 2) 2) .50 2) 2)	400 500 <sup>b</sup> 400 508 400	NOSE TURRET S.WAIST-86 MT. UPPER TURRET LOW BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-21J-CF (-101 to -)	A	S	A	B	O	V	E

NOTES: a B-21J-CF AIRPLANES RECEIVE NEW B-21J DESIGNATIONS WHEN C-1 AUTOMATIC PILOT & M-9 BOMB SIGHT REPLACE A-5 AUTOMATIC PILOT & S-1 BOMB SIGHT.  
b B-21J-20 HAS PROVISIONS FOR ONLY 250 RDS. PER GUN AT SIDE WAIST POSITION.

DOUGLAS (TULSA) "DT" and

FORD (WILLOW RUN) "FO"

NORTH AMERICAN (DALLAS) "NT"

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-21H-DT thru -15 (DOUGLAS)	2) 2) 2) .50 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-21H-FO 1 thru -15 (FORD)	A S	A B O V E		A S	A B O V E		AS ABOVE
B-21H-DT & FO 1 thru -30	2) 2) 2) .50 2) 2)	400 500 <sup>b</sup> 400 508 400	NOSE TURRET S.WAIST-86 MT. UPPER TURRET LOW BALL TRR. TAIL TURRET	A S	A B O V E		AS ABOVE
B-21J-FO thru -20 B-21J-DT 1 thru -10	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 B-21H-20 HAS PROVISIONS FOR ONLY 250 RDS/GUN.

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-21J-NT thru -15	3) 2) 2) .50 2) 2)	230 TOT. 250 400 508 <sup>a</sup> 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-21J-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-21J-NT (-10 thru -15)	A S	A B O V E				12800	AS ABOVE
B-21J-NT (-1 thru -10)	A	S	A	B	O	V	E

NOTES: a LOWER BALL TURRET ON 5th. & SUBSEQUENT; NO TUNNEL GUN ON 1st. 4 ARTICLES.

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AS OF:  
DATE 22 OCT 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 MFGR. MODEL SUPERCHARGER PROP MFGR. 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 & PER GUN CALIBER	RDS LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.	TYPE		
B-24D (WITH BOMB BAY TANKS)	4	PRATT-WHITNEY R-1830-13 TURBO HAMILTON STD. 11'7" DIA. - 3 BL. P.F., HYDROMATIC	T 1200/S L M 1200/26500 C 1100/27000	S 110'0" L 66'4" H 18'0" T 25'8" W 101.6 Sq. Ft.	B 34500 C 56000 R 56000 W 67800	10	MAD - WINGS BOMB BAY	12-2364 2x 400 3164 TOT.	3) 2) 1) 2) .50	100 250 400 100 400	NOSE - FLEX. SIDE WAIST-FL. UPPER TURRET TUNNEL - FLEX. TAIL TURRET	4-2000 6-1600 6-1000 12-500 12-250 20-100	NONE	12800	SEE NOTE "A"	TECHNICAL ORDER 01-5EC-1 (REV. 20 JUNE 1944)
B-24D (WITH WING TIP TANKS)	4	AS ABOVE EXCEPT R-1830-65 ENGINE ON B-24D-20-CF & B-24D-135-CC TRSU -170-00.	AS ABOVE	AS ABOVE	B 36500 C 56000 R 56000 W 71400 B	10	MAIN - WINGS WING TIPS BOMB BAY	12-2364 2x 225 2x 400 3611 TOT.	3) 2) 2) 2) .50	100 250 400 508 400	NOSE - FLEX. SIDE WAIST-FL. UPPER TURRET LOW BALL TURRET TAIL TURRET	A S	A B O V E	AS ABOVE	A S A B O V E	
B-24G,H&J	4	PRATT-WHITNEY R-1830-65 TURBO HAMILTON STD. 11'7" DIA. - 3 BL. P.F., HYDROMATIC	AS ABOVE SEE "b"	S 110'0" L 67'2" H 18'0" T 25'8" W 101.6 Sq. Ft.	B 37500 C 56000 R 56000 W 71400 B	10	AS ABOVE	AS ABOVE	2) 2) 2) 2) .50	400 250 400 508 400	NOSE TURRET SIDE WAIST-FL. UPPER TURRET LOW BALL TURRET TAIL TURRET	A S	A B O V E	AS ABOVE	SEE "c"	TECHNICAL ORDER 01-5EE-1 (NOW BEING PRINTED) * ENGINE IS R-1830-13 ON B-24G & G-1-NI; B-24H-1 & (152) B-24J-1 & -5-FO; ALL B-24J BY DT. * LATEST AIRCRAFT HAVE NEW TURBO SUPERCHARGER TYPE (B-24J) GIVING CRIT. ALTITUDE SAME AS SHOWS FOR B-24L & M. * PER INTERNAL BOMB PACKS BEING INSTALLED AT MOD. CENTERS. REVISION TO REFERENCE ABOVE NOW AT MANUFACTURERS. * B-24L SERIES HAS HAND HELD FLEX. GUNS IN THE TAIL; B-24M SERIES HAS LIGHT WEIGHT TURRET IN TAIL.
B-24L & M	4	PRATT-WHITNEY R-1830-65 TURBO HAMILTON STD. 11'7" DIA. - 3 BL. P.F., HYDROMATIC	T 1200/S L M 1200/31800 C 1100/31500	AS ABOVE	B AS ABOVE C AS ABOVE R W	10	AS ABOVE	AS ABOVE	2) 2) 2) 2) .50	400 500 400 508 400	NOSE TURRET SIDE WAIST-FL. UPPER TURRET LOW BALL TURRET	A S	A B O V E	AS ABOVE	AS ABOVE	

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 MPH	RATE OF CLIMB FT./MIN.	HIGH SPEED MPH	RATE OF CLIMB FT./MIN.				TIME TO CLIMB MIN.	AT 10000 FT. RANGE MILES	AT 25000 FT. RANGE MILES	AT 10000 FT. RANGE MILES	AT 25000 FT. RANGE MILES		AT 10000 FT. RANGE MILES	AT 25000 FT. RANGE MILES				
B-24D (WITH BOMB BAY TANKS)	40000 54000 59000 60000	- 1500 6200 6600	3300 4200 - -	90 103 - -	2800 3450 - -	56000	30000 25000 20000 15000 10000 5000	- 303 290 277 263 252	550 900 1000 1150 1200	277 284 272 299 246	350 700 800 950 1000	43.5 30.2 22.0 15.4 9.7 4.2	58500 53000 58000	NONE NONE 5000	3164 2364 2364	1200 900 850	5.3 4.0 4.0	1350 1000 950	5.3 3.9 3.9	2400 1800 1750	12.1 9.0 8.9	2500 1900 1800	11.5 8.5 8.3	3200 2450 2300	20.0 15.2 14.4		
B-24D (WITH WING TIP TANKS)	40000 56000 59000 60000 62000 64000	- 5050 6200 6600 7550 8750	3300 4300 - - -	90 105 - -	2800 3550 - -	56000	30000 25000 20000 15000 10000 5000	A S A B O V E	A B O V E	A B O V E	A B O V E	63500** 60500 61000 60000	NONE NONE 3000 5000	3614 3164 2814 2364	- 1200 1050 850	5.3 4.6 4.0	1350 1200 950	5.3 4.6 3.9	2400 2050 1750	12.1 10.6 8.9	2500 2200 1800	11.5 10.2 8.3	3500* 3200 2750 2300	22.2* 20.0 17.1 14.4	*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. **PERFORMANCE DATA ABOVE 65000 LB. NOT YET AVAILABLE; SEE NOTE "a"		
B-24G,H&J		A S	A B O V E			56000	30000 25000 20000 15000 10000 5000	A S	A B O V E	A B O V E	A B O V E	64500** 61500 62000 61000	NONE NONE 3000 5000	3614 3164 2814 2364	- 1150 1000 850	5.3 4.6 3.9	1350 1200 950	5.3 4.6 3.9	2200 1900 1600	11.9 10.6 8.8	2300 1950 1700	11.3 9.8 8.1	3300* 2900 2500 2100	20.2* 18.2 15.6 13.0			
B-24L & M		A S	A B O V E					A S	A B O V E	A B O V E	A B O V E																

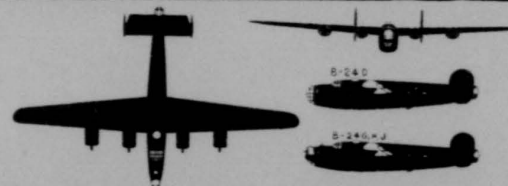
NOTES: (A)

24 VOLT RADIO SYSTEM  
SCR-211 FREQUENCY METER  
SCR-522 COMMAND SET  
SCR-2690 RADIO COMPASS  
SCR-2714 COMMAND SET  
SCR-287A LIAISON SET  
SCR-695 IFF (or SCR-595)  
SCR-578 EMERGENCY TRANSMITTER  
RC - 32 FILTER EQUIPMENT (or RC-198)  
RC - 36 INTERPHONE AMPLIFIER  
RC - 13B MARKER BEACON  
RC - 103 BLIND LANDING (Provisions only)  
AN/ARR-1 RECEIVER (Installed in some models)

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

\* MILITARY POWER AVAILABLE FOR 5 MINUTES ONLY.

(B) THEATER REPORTS INDICATE LOADINGS IN EXCESS OF 65000 LB. ARE BEING USED. IT IS ABSOLUTELY ESSENTIAL THAT WING FUEL & OIL TANKS ARE FULL AT THESE HEIGHTS & THAT MANEUVERS BE KEPT TO A MINIMUM.



**B-24**  
"LIBERATOR"

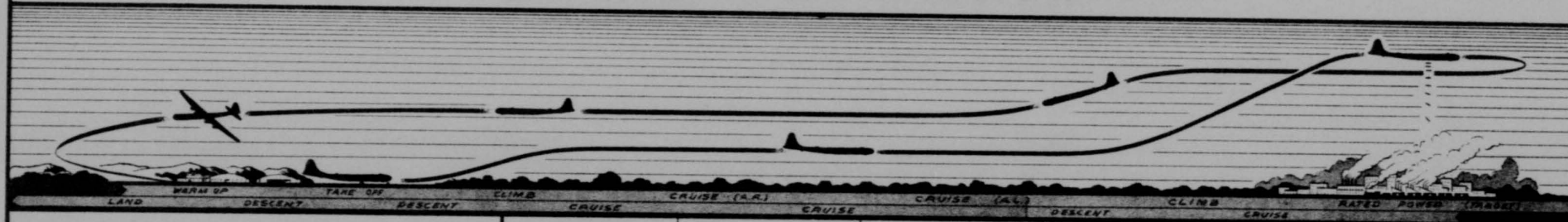
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**SAMPLE B-29 MISSION**

	DENSITY ALTITUDE	COWL FLAP	INDICATED AIR SPEED	FUEL USED	TIME IN FLIGHT	AIR MILES
WARM UP AND TAKE OFF	0 TO 100	WIDE OPEN TO 7.5°	0-180	160	0	0
CLIMB	100 TO 5000	9°	195	330	0.2	38
CRUISE (A.R.)	5000	1.7°	202	1330	2.4	500
CRUISE (A.L.)	5000	1.7°	198	2500	5.5	1172
CLIMB	5000 TO 30000	9°	195	3530	6.5	1463
RATED POWER (TARGET AREA)	30000	7°	206	3810	6.8	1563
CRUISE	30000	7°	185	4290	7.5	1780
CRUISE DESCENT	30000 TO 15000	3.5°	186	4970	9.5	2305
CRUISE	15000	3.5°	186	5600	11.4	2755
DESCENT AND LAND	15000 TO 0	1.7° TO WIDE OPEN	184	6142	13.6	3132

## NOTE

A. THE ABOVE DATA IS BASED ON STANDARD TEMPERATURE. THE B-29 IS GREATLY AFFECTED BY TEMPERATURE CHANGES AND A VARIATION IN PERFORMANCE OF AS MUCH AS 20% MAY BE EXPECTED UNDER CERTAIN CONDITIONS OF WIND AND TEMPERATURE. FOR EXAMPLE, A 1°C. CHANGE IN TEMPERATURE HAS APPROXIMATELY THE SAME EFFECT ON SERVICE CEILING AS 1000 LB. IN WEIGHT.

T.O. GROSS WT.—135000 LB.  
 FUEL—6923 GAL.  
 BOMBS—10000 LB.  
 RADIUS OF ACTION 1550 MI  
 (WITH 781 GAL. RESERVE)

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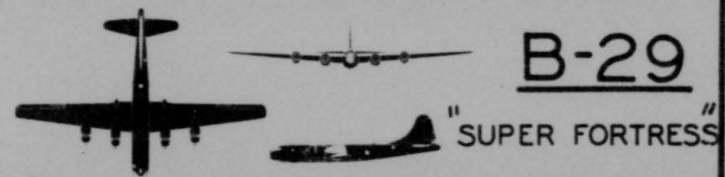
TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																		PAGE 9
CONFIDENTIAL																		AS OF: 29 OCT. 1944
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE			
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	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 STATION		EXTERNAL NO. & SIZE CAPACITY	MAX. LOAD LB.	TYPE	
B-29-BW -1 to -20 INCL. B-29-BA -1 B-29A-BW -1	4	WRIGHT R-3350-23 TURBO HAMILTON STD. 16 1/2" DIA. - 4 BL. F. F., HYDROMATIC	T 2200/5 L M 2200/25000* C 2000/25000*	S 111' 3" L 99' 10" H 27' 9" T 31' 6" W 1739 SQ. FT.	B 71500 C 120000 R 120000 W 135000A	10	OUTRD. -WINGS INRD. -WINGS BOMB BAY	11-2735 8-2873 1-1315 1-640 9168 TOT	1-2000 2) 1000 2) 1000 2) .50 2) 1000 2) 1000 2) 1000	100 1000 1000 1000 1000 1000	TAIL-M2, TYPE B UPPER FORE TRR. UPPER REAR TRR. LOWER FORE TRR. LOWER REAR TRR. TAIL-POWER MT.	1-4000 5-2000 12-1500 12-1000 10-500	NOISE	20000	SEE NOTE (B)	TECHNICAL ORDER 01-208J-1 (15 SEPT. 1944) * WITHOUT RAM * OUTBOARD TREAD-31'6"; INBOARD TREAD-25'8"		
B-29-BW -25 to -45 INCL. B-29-BA -5 to -15 INCL. B-29-WO -1 & -5	4	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	10	OUTRD. -WINGS INRD. -WINGS CENTER-WINGS BOMB BAY	11-2735 8-2873 1-1315 1-640 9168 TOT	1-2000 2) 1000 2) .50 2) 1000 2) 1000 2) 1000	100 1000 1000 1000 1000 1000	TAIL-M2, TYPE B UPPER FORE TRR. UPPER REAR TRR. LOWER FORE TRR. LOWER REAR TRR. TAIL-POWER MT.	AS ABOVE	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE * WITHOUT RAM * LAST (75) B-29-10-BW & SUBSEQUENT (BW) MODELS & ALL B-29-40 MODELS HAVE 1x.50 CAL. GUNS; OTHERS AS ABOVE. * OUTBOARD TREAD-31'6"; INBOARD TREAD-25'8".			
B-29A-BW -5	4	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	10	OUTRD. -WINGS INRD. -WINGS CENTER-WINGS BOMB BAY	11-2735 8-2873 3-1120 1-640 9288 TOT	1-2000 2) 1000 2) .50 2) 1000 2) 1000 2) 1000	100 1000 1000 1000 1000 1000	TAIL-M2, TYPE B UPPER FORE TRR. UPPER REAR TRR. LOWER FORE TRR. LOWER REAR TRR. TAIL-POWER MT.	AS ABOVE	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE * WITHOUT RAM * OUTBOARD TREAD-31'6"; INBOARD TREAD-25'8".			

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	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.	RANGE	ENDUR.		RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.	
B-29-BW -1 to -20 INCL. B-29-BA -1 B-29A-BW -1	80000	-	-	-	-	30000	312	500	324	150	72.0	134000	NONE	8168	-	-	-	-	-	-	-	-	-	-	-	-	1150	21.2	
B-29-BW -25 to -45 INCL. B-29-BA -5 to -15 INCL. B-29-WO -1 & -5	90000	-	1350	105	-	25000	329	450	315	500	52.0	135000	8000	6888	1900	7.2	2000	7.3	3150 <sup>b</sup>	11.2	-	-	-	-	-	-	3600	17.0	
B-29A-BW -5	100000	4550	-	110	3100	20000	328	575	314	425	38.0	120000	1000	5608	1900	5.8	1650	5.8	2700	12.1	-	-	-	-	-	-	5000	15.5	
B-29A-BW -5	110000	5700	-	115	3850	15000	312	650	300	500	26.0	128000	10000	5608	1550	5.8	1650	5.7	2800 <sup>b</sup>	11.9	-	-	-	-	-	-	2700	15.9	
B-29A-BW -5	120000	7150	-	120	4900	10000	303	725	290	575	15.0	128000	10000	5608	1550	5.8	1600	5.7	2800 <sup>b</sup>	11.9	-	-	-	-	-	-	-	-	-
B-29A-BW -5	135000	9900	-	-	6700	5000	289	800	276	650	8.0	129000	10000	6923	1900	7.2	2000	7.2	3300 <sup>b</sup>	11.9	-	-	-	-	-	-	3500	16.1	
B-29A-BW -5												135000	NONE	8008	-	-	-	-	-	-	-	-	-	-	-	-	4050	20.7	
B-29A-BW -5												128000	10000	6728	1900	7.1	1950	7.0	3200 <sup>b</sup>	11.5	-	-	-	-	-	-	3600	17.5	
B-29A-BW -5												134000	10000	6728	1850	7.0	1950	7.0	3000 <sup>b</sup>	13.6	-	-	-	-	-	-	3850	16.5	

NOTES:

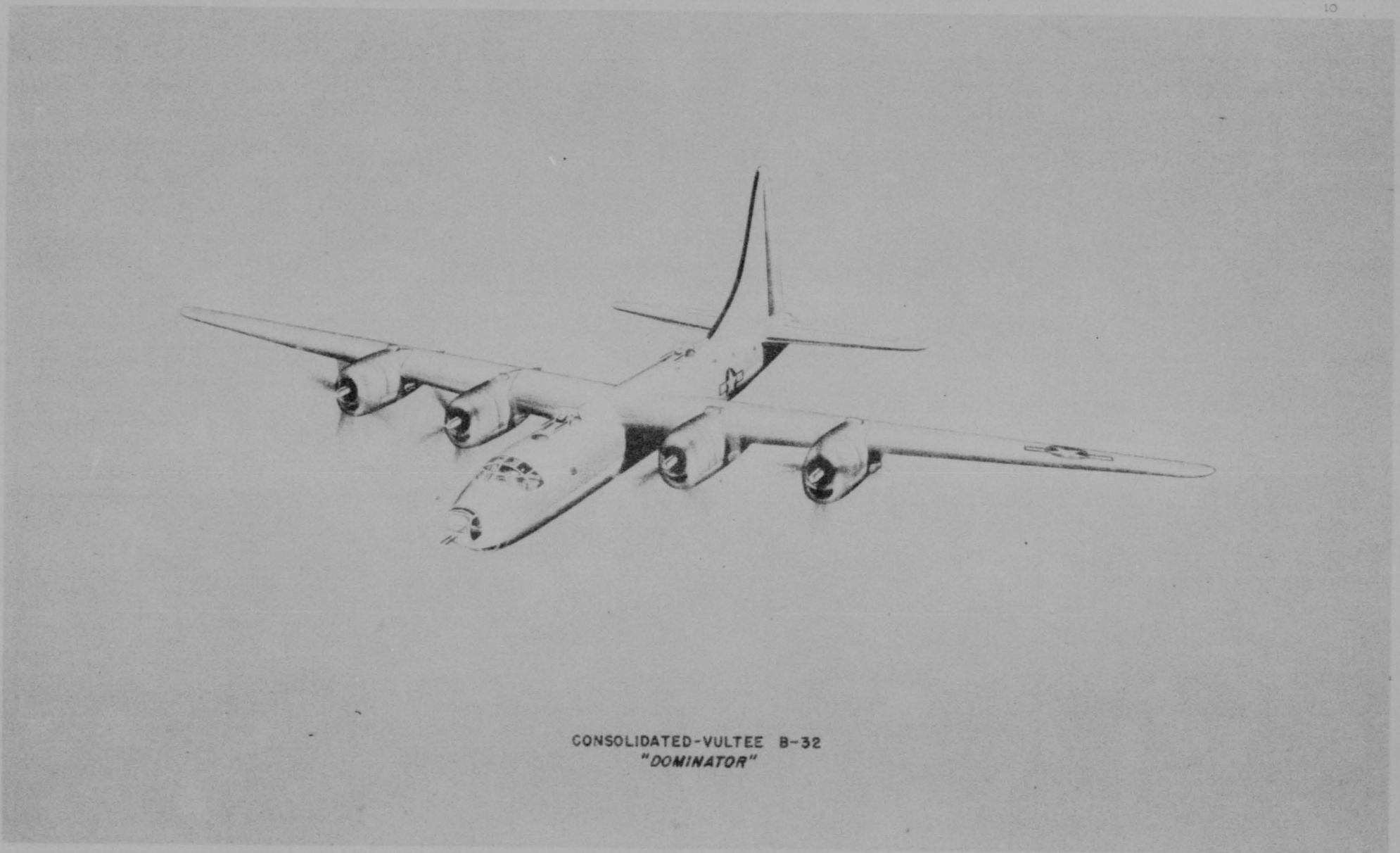
(A) HIGHER LOADINGS ARE STRUCTURALLY POSSIBLE BUT ARE IMPRACTICAL BECAUSE POWER AVAILABLE WOULD BE INSUFFICIENT FOR TACTICAL OPERATION.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

(B) AN-ARC-5  
SCB-2490  
SCB-1148  
SC-101  
AN-ARC-5  
SC-56  
SCB-654  
SCB-570  
SCB-719  
AN-APP-13  
RAVEN  
AN-ASB-1  
AN-ARB-1  
PROVISIONS FOR:  
AN-AP-4  
SCB-522LIAISON SET  
COMPASS (OF AN-ARC-5)  
MAPPER REAR  
GLIDE PATH RECEIVER  
LOCALIZER RECEIVER  
INTERPHONE (OF AN-ARC-2)  
IFT  
EMERGENCY TRANSMITTER  
HIGH ALTITUDE ALTIMETER  
HIGH ALTITUDE PARAS  
SCW  
STATIC DISCHARGER  
28 ADAPTER (SOME PLANES ONLY)  
LORAN  
VHF (SOME PLANES ONLY)MANUFACTURED BY:  
(MARTIN (OMAHA) "10")  
(BOEING (WICHITA) "BW")  
(BOEING (RENTON) "BN")  
(BELL (ATLANTA) "BA")**B-29****"SUPER FORTRESS"**

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CONSOLIDATED-VULTEE B-32  
"DOMINATOR"

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**TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART**

PAGE 11  
AS OF:  
DATE 22 OCT 1944


MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
	NUMBER	ENGINE MFGR. MODEL SUPERCHARGER PROP MFGR. 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-REC'D 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-32-CF	4	WEIGHT R-3350-23 TURBO SUPERCHARGER 16" DIA. - 4 BL. CONST. SPD. - ELECT.	T 2200/5 L 2200/50000 M 2200/50000 C 2000/52500	S 135' 0" L 82' 11" H 33' 0" T 28' 0" W 1422 sq. ft.	B 60000 C 100000 R 102500 W 123250	8	INNER (CENTER) 2 x 505 (OUTER) 2 x 250 OUTER (CENTER) 2 x 309 (OUTER) 2 x 180 (See f)	2) 365 <sup>a</sup> 2) 400 2) .50 2) 550 2) 1000	365 <sup>a</sup> 400 .50 550 1000	ROSE TURRET FRONT TOP TR. REAR TOP TR. LOW BALL TR. TAIL TURRET	4-4000 8-2000 8-1500 12-1000 40-500	NONE	20000	SUB-27LN, 211,269, 287,522, 695 & 718, RC-36,103, 132 & 136.	TECHNICAL ORDER 01-594-1. (20 JULY 1944) a SPACE PROVISIONS FOR 600 RDS/GUN; NORMAL RGS. LISTED. b BOMB RAY TANKS IN DESIGN STAGE; NO DETAILS AVAILABLE. c RADIO LISTED FOR EXP. PLANES & FIRST FEW PROD. ARTICLES.
			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										

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

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.	LAND. DIST. FT.	LANDING SPEED M.P.H.	GROUND-RUN T.O. DIST. FT.	LAND. DIST. FT.	WEIGHT LB.	STD. ALT. FT.	MIL. POWER HIGH SPEED M.P.H.	RATE OF CLIMB FT./MIN.	MAX. CONTIN. POWER HIGH SPEED M.P.H.	RATE OF CLIMB FT./MIN.	TIME TO CLIMB MIN.	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.					
B-32-CF	70000	-	3650	88	-	2200	30000	382	650	369	425	33.3	100000	2000	5450	1500	5.6	1700	5.7	2700	11.6	2950	11.1	3750	20.8		
	80000	3650	4100	96	3000	2600	25000	366	825	354	600	28.7	100000	2000	5450	1150	5.5	1650	5.6	2650	11.3	2850	11.1	3500	18.7		
	90000	4500	4550	106	3600	2900	20000	350	950	338	750	21.6	110000	2000	5450	1100	5.3	1550	5.6	2500	10.8	2600	10.8	2900	14.5		
	100000	5500	5000	118	4300	3150	15000	351	1050	320	850	15.4	110000	2000	5450	1100	5.3	1550	5.6	2500	10.8	2600	10.8	2900	14.5		
	110000	6700	-	-	5200	-	10000	318	1150	307	950	8.1															
	120000	8850	-	-	6450	-	5000	302	1200	292	-	3.4															

NOTES:

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT TEST.  
\* MILITARY POWER AVAILABLE FOR 5 MINUTES.



**B-32**  
"DOMINATOR"

MANUFACTURED BY CONSOLIDATED-VULTURE (Pc. North) "CP"

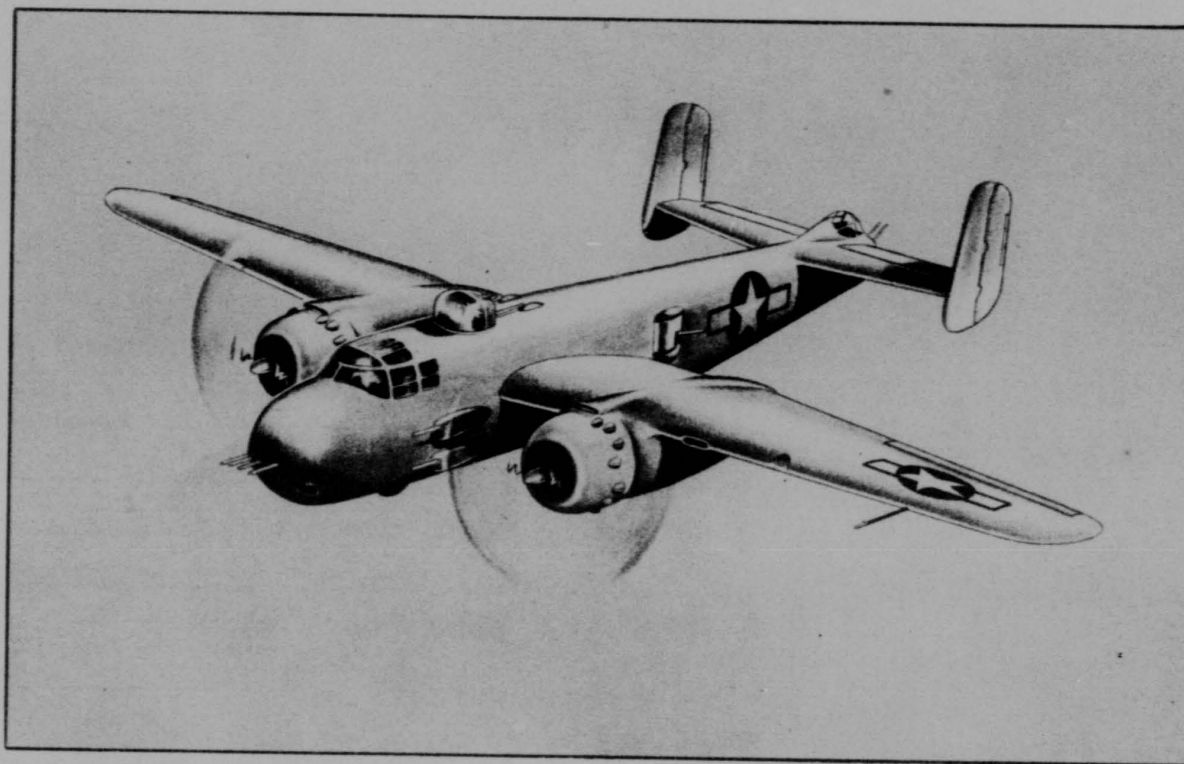
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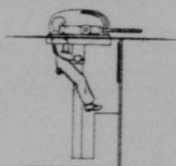
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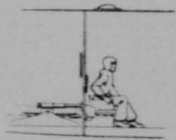
# B-25 MITCHELL BOMBER



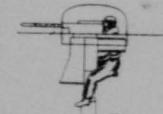
TAIL GUNNER  
B-25H&J



UPPER TURRET (REAR)  
B-25C, D, & G



CANNONEER  
B-25G&H



UPPER TURRET (FRONT)  
B-25H&J

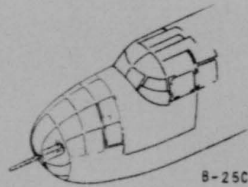


BOTTOM TURRET  
B-25C, D, & G

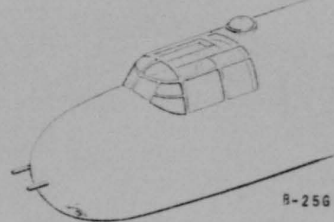


WAIST GUNNER  
B-25H&J

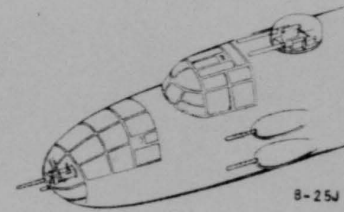
B-25H



B-25C&D



B-25G



B-25J

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																	PAGE 15
CONFIDENTIAL																	AS OF:
																	DATE 20 OCT 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-RECLIM W-WAR MAX.	TANK TYPE OR LOCATION		NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & PER GUN	RDS LOCATION	INTERNAL NO. & SIZE	EXTERNAL NO. & SIZE	MAX. LOAD LB.	TYPE			
B-26B-MA B,-2,-3 & -4	2	PRATT-WHITNEY R-2500-5a 2 SPD. SUPERCH. CURTISS 13'6" DIA. - 4 BL. P.P. ELECTRIC	1850/2700 1500/14000 1500/7800 1150/13000	S 65'0" 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 BOMB BAY - (FORE)	2 x 360 2 x 121 2 x 250 1162 TOT	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 2-1500 1-1000 5-500 15-250 30-100	1-2000 (TORPEDO)	2-1600 1-2000T 5200 (B)	SEE (A)	TECHNICAL ORDER 01-352A-1. (5 MARCH 1943) * SIDE WAIST GUNS ADDED TO LAST 111 (-4) ONLY. * B-26B-MA HAS -5 ENGINE; B-26B-2-MA HAS -41 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-2500-13 2 SPD. SUPERCH. CURTISS 13'6" DIA. - 4 BL. P.P. ELECTRIC	1920/3200 1490/11300 1550/7100 1360/11600	S 71'0" L 58'3" H 21'6" T 22'0" W 659 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 1962 TOT	1-30 1-30 2-50 2-50	200 270 250 200 400 600	NOSE - FLEX. NOSE - FLEX. SIDE WAIST-FL. U. PUS. - PACKAGE UPPER TURRET TAIL-POWER MT.	2-2000 2-1500 1-1000 5-500 10-250 20-100	A 3 A B O T X	AS ABOVE	TECHNICAL ORDER 01-352B-1. (25 DEC 1943) * B-26B-10,-15 & C-5 HAVE FLEX. TAIL MOUNT INSTEAD OF POWER MOUNT. * HDG. GUN SAME AS B-26B-2-MA. * BASIC WEIGHT OF B-26B-15 IS 21,500 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 1162 TOT	AS ABOVE	AS ABOVE	2-2000 2-1500 1-1000 5-500 10-250 20-100	1-2000 (TORPEDO)	2-1600 1-2000T 5200 (B)	NOTE (A) plus RC-103 & SCR-522	REFERENCE AS ABOVE * FLEX. NOSE GUN DELETED ON LATEST B-26B's and B-26C-15. * ALL MODELS EXCEPT 1st. 75 (B-26C-30) CARRY LESS BOMBS DUE TO DELETION OF 2 REAR BOMB BAYS. * RC-103 & SCR-522 ADDED TO LATER MODELS ONLY.		
B-26F-MA -1,-2 & -6 B-26G-MA -1 TO -10	2	AS ABOVE	AS ABOVE	S 71'0" L 56'1" H 20'4" T 22'0" W 658 SQ. FT.	B 25500 C 37000 R 37500 W 38200(C)	6	MAIN - WINGS AUX. - WINGS BOMB BAY - (FORE ONLY)	2 x 380 2 x 180 2 x 250 1500 TOT	1) 2) 2) 2)	300 250 275 225 400 900	NOSE - FLEX. SIDE WAIST-FL. U. PUS. - PACKAGE L. PUS. - PACKAGE UPPER TURRET TAIL-POWER MT.	2-2000 2-1500 1-1000 5-500 10-250 20-100	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-352C-1. (15 FEB 1944) * B-26G DESIGNATION IS USED FOR AIRPLANES WITH AN FITTINGS; NO OTHER MAJOR CHANGES.		

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	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.	RANGE	ENDUR.	
B-26B-MA B,-2,-3 & -4	21000	-	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	2100	2200	135	1600	1050	29000	-	-	-	-	-	34200	NONE	1162	1125	5.7	-	-	2375	11.7	-	2600	14.7	* MUST BE STRIPPED TO 38200 LB.	
B-26B-MA -25 TO -55 INCL B-26C-MO -30 & -45 INCL	32000	3050	2100	136	2000	1200	15000	282	-	273	320	28.6	37800	NONE	1162	1000	4.2	-	-	1725	8.5	-	1825	10.2		
B-26F-MA -1,-2 & -6 B-26G-MA -1 TO -10	35000	3900	-	-	2500	-	10000	278	-	271	550	11.2	34200	1500	1162	1000	4.2	-	-	1700	8.5	-	1800	10.2		
	36000	4300	-	-	2950	-	5000	285	1000	269	3	4.1	36300	2000T	962	-	-	-	-	-	-	-	-	-		
	36000	4300	-	-	3150	-	S L	281	1500	265	3	0.0	35000	4000	962	950	2.2	-	-	-	-	-	-	1250	7.0	
	28000	2100	2200	135	1600	1050	29000	-	-	-	-	-	37800	NONE	1162	1000	4.2	-	-	1725	8.5	-	1825	10.2		
	32000	3050	2100	136	2000	1200	15000	282	-	273	320	28.6	34200	NONE	1162	1000	4.2	-	-	1700	8.5	-	1800	10.2		
	35000	3900	-	-	2500	-	10000	278	-	271	550	11.2	34200	1500	1162	1000	4.2	-	-	1700	8.5	-	1800	10.2		
	36000	4300	-	-	2950	-	5000	285	1000	269	3	4.1	36300	2000T	962	-	-	-	-	-	-	-	-	-		
	36000	4300	-	-	3150	-	S L	281	1500	265	3	0.0	35000	4000	962	950	2.2	-	-	-	-	-	-	-		
	28000	2100	2200	122	1500	1050	25000	-	-	-	-	-	38000	NONE	1500	1050	4.3	-	-	1775	8.8	-	1875	10.6	* MUST BE STRIPPED TO 38200 LB.	
	32000	2150	2100	122	1750	1200	20000	255	-	258	-	-	36000	NONE	1850	875	3.6	-	-	1500	7.2	-	1600	9.0		
	35000	2660	2600	125	1846	1300	15000	274	-	274	350	31.6	34000	NONE	1000	675	2.7	-	-	1175	5.6	-	1300	7.3		
	36000	2900	2650	127	2000	1350	10000	277	-	269	390	17.2	31000	NONE	1000	675	2.7	-	-	1175	5.6	-	1300	7.3		
	38200	3600	-	-	2100	-	5000	283	-	259	630	8.1	38200	4000	1000	675	2.8	-	-	1100	5.6	-	1125	6.3		

NOTES: (A) 24 VOLT RADIO SYSTEM

SCR-211 FREQUENCY METER  
SCR-2690 RADIO COMPASS  
SCR-271W COMMAND SET  
SCR-287A LIAISON SET  
SCR-535 SET (or SCR-995 or SCR-695)  
SCR-578 EMERGENCY TRANSMITTER  
RC - 32 FILTER EQUIPMENT (or RC-198)  
RC - 36 INTERPHONE AMPLIFIER  
RC - 43B 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 SEVEN TORPEDO MUST BE DROPPED FIRST.  
(C) LIMITED TO 38200 LB. BY FLYING CHARACTERISTICS.



**B-26**  
"MARAUDER"

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

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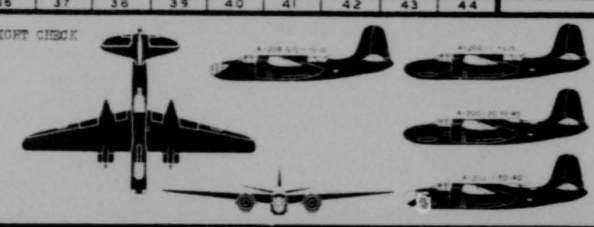
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																		PAGE 16 AS OF DATE 21 OCT-1944	
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE				
	ENGINE MFGR. MODEL SUPERCHARGER PROP MFGR. 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.	TYPE					
A-20B-DL	2 R-2500-11 2 SPD. SUPERCH. HAMILTON STD. 11"3"DIA.-3BL. P.P., HYDROMATIC	T 1600/3000 M 1400/11500 C 1350/5500 1275/12000	S 61'4" 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 1080 TOT.	1- .30 2- .30 1- .50 2- .50	500 1000 200	TUNNEL - FLEX. L. APR. NACELLE REAR COCKPIT NOSE - FIXED	1-1000 1- 500 4- 250 10- 100	(SEE C) 1-2000T 2- 500 4- 250 4- 100	1000	SCR-27LN SCR-535 MC-26C RC-36	TECHNICAL ORDER 01-4040-1. (1 DEC. 1942) f SOME MODELS ONLY			
A-20C-DO -I TO -10 INCL	2 AS ABOVE EXCEPT FOR CHANGE TO R-2500-23 ENGINE	T 1600/3000 M 1400/10000 C 1350/5000 1275/11500	S 61'4" L 47'4" H 18'1" T 17' W 465 sq. ft.	B 16300 C 23000 R 25200 W 27000A	4		INBD. WINGS OUTBD. WINGS FUS. (BOMB BAY) BOMB BAY (SEE B)	2 x 136 2 x 64 2 x 70 4 - 620 1080 TOT.	1) 2) .30 4) a	500 ea.	TUNNEL - FLEX. REAR COCKPIT NOSE - FIXED	4-500 1-250 4-100	(SEE C) 1-2000T	2000	AS ABOVE	TECHNICAL ORDER 01-4040-1. (10 FEB. 1942) b NO TORPEDO PROVISIONS ON A-20C-1. a FOR ALTERNATE INSTALLATIONS SEE EE-306-A.			
A-20G-DO -I TO -15 INCL	2 AS ABOVE	AS ABOVE	AS ABOVE	B 17200 C 24000 R 25200 W 27000A	3		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) 1-2000T	2000	SCR-27LN SCR-535A SCR-695A MC-26Y RC-36 RC-198 SCR-522	TECHNICAL ORDER 01-40 (5 APRIL 1944) 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 -45 INCL	2 AS ABOVE	AS ABOVE	AS ABOVE	B 17700 C 26000 R 26000 W 27000A	3		INBD. WINGS OUTBD. WINGS FUS. (BOMB BAY) PROP. - EXT. (SEE B)	2 x 136 2 x 64 3 - 325 1 x 374 1099 TOT.	1) 2) .50 6)	400 400 350	TUNNEL - FLEX. UPPER TURRET NOSE - FIXED	4-500 4-250 4-100	(SEE C) 1-2000T 4-500 4-250 4-100	4000	SCR-27LN SCR-535 SCR-695A MC-26Y RC-36 RC-198 SCR-522	REFERENCE AS ABOVE * NO PROVISIONS FOR TORPEDO ON A-20G-40A-45. * A-20G-45 HAS MC-26C INSTEAD OF MC-26Y. * SCR-522 INSTALLED ON THE -45'S ONLY.			
A-20J-DO -I TO -20 INCL.	2 AS ABOVE	AS ABOVE	AS ABOVE	B 17800 C 26000 R 26000 W 27000A	4		AS ABOVE		1) 2) .50 2)	400 400 350	TUNNEL - FLEX. UPPER TURRET NOSE - FIXED	AS ABOVE	AS ABOVE	SCR-27LN SCR-535A MC-26C RC-36 RC-198 SCR-522	REFERENCE AS ABOVE * NO PROVISIONS FOR TORPEDO ON A-20J-15 & -20.				

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 FT. MIN.	GROUND-RUN 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												
		T.O. FT.	LAND. FT.		T.O. FT.	LAND. 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.										
A-20B-DL	17000		2150	88		1500	25000	280	370	277	290	22.6																				
A-20C-DO -I TO -10 INCL	18000		2650	91		1600	25000	275	500	274	270	23.9																				
A-20G-DO -I TO -15 INCL	19000		2700	95		1650	25000	275	260	274	240	25.3																				
A-20G-DO -20 TO -45 INCL	21000	3600	2900	102		1750	25000	302	750	298	290	14.6																				
A-20J-DO -I TO -20 INCL.	23000	4200	3150	109		2000	25000	317	1260	312	1200	8.7																				

NOTES: (A) CRITICAL FLIGHT CHARACTERISTICS RESULT ABOVE 27000 LB.  
(B) FUSELAGE TANKS ARE CARRIED IN BOMB BAY 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 MINUTE ONLY.  
T TORPEDO (REPLACES INTERNAL BOMBS WHEN CARRIED)  
x EXTERNAL



**A-20**  
"HAVOC"

MANUFACTURED BY DOUGLAS (SANTA MONICA) DIV.  
(SANTA MONICA) 1940-1944

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PAGE 17  
AS OF:  
DATE 20 OCT 1994

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.	S-SPAN	B-BASIC		TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & RDS PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX LOAD LB.	TYPE	
		T-TAKE-OFF M-MILITARY C-CONTINUOUS	L-LENGTH H-HEIGHT T-TREAD W-WING AREA	C-COMBAT R-REC'D LIM W-WAR MAX.						NO. & SIZE OR STATION	NO. & SIZE OR CAPACITY			
A-20H-DO -1 TO -15 INCL.	WRIGHT R-2600-29 2 SPD. SUPERCH. HAMILTON STD. 11"3" DIA. -3 BL. P.P. HYDRA-MATIC	T 1700/5. L. M 1700/5200 C 1450/13400 1500/5400 1350/13900	S 61'4" L 18'0" H 18'1" T 17'0" W 155 sq. ft.	B 17500 C 26000 R 25000 W 27000	3	DED. WINGS OUTD. WINGS FUE. (BOMB B.) D.M.F. (EXTERNAL) (SEE B) 2x136 2x 64 3x325 1x374 1099 TOT.	1) 2) .50 6)	400 400 350	TURREL-FLEX. UPPER TURRET NOSE-FIXED	4- 500 4- 250 4- 100	4- 500 4- 250 4- 100	4- 500 4- 500x 1000	SCR-271B SCR-695A MN-26Y RC-36 RC-198	TECH. LTR. ORDER 01-10AF-1 (15 JUNE 1944) NO TORPEDO PROVISIONS.
A-20K-DO -1 TO -15 INCL.	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	4	AS ABOVE	1) 2) .50 2)	400 400 350	TURREL-FLEX. UPPER TURRET NOSE-FIXED	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE. A-20K SAME AS A-20H, EXCEPT FOR BOMBARDIER NOSE.
		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										

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 FT. / MIN.	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 FT./MIN.	RATE OF CLIMB MPH	HIGH SPEED FT./MIN.	RATE OF CLIMB MPH				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	ENDUR. HOURS
		A-20H-DO -1 TO -15 INCL.	19000 21000 24000 26000 27000		2750 3500 4810 5690 6250	3750 4060 4625 4840 5125			94 100 108 118 118	1830 1875 2560 3500 3500	2375 2960 3250 3500 3500	25000 20000 15000 10000 5000 26000				285 315 322 320 305 300	680 1200 1900 1880 2000	160 620 1050 134.0 299 285	15.3 9.6 5.6 2.7 0.0	26580 26040 26090	NONE 2000 4000		1099 725 400	750 555 320	3.2 2.1 1.1	- - -	- - -	1115 1010 420	6.3 4.1 2.2
A-20K-DO -1 TO -15 INCL.	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				

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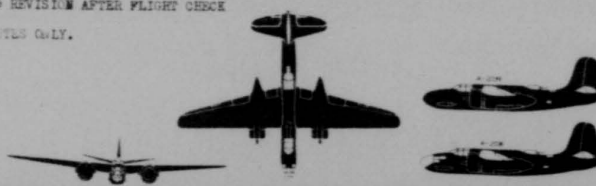
## NOTES:

(A) CRITICAL FLIGHT CHARACTERISTICS RESULT ABOVE 27000 LB.  
(B) FUSELAGE TANKS ARE CARRIED IN BOMB BAYS WITHOUT AFFECTING BOMB LOAD CAPACITY.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

\* MILITARY POWER AVAILABLE FOR FIVE MINUTES ONLY.

x EXTERNAL



**A-20**  
"HAVOC"

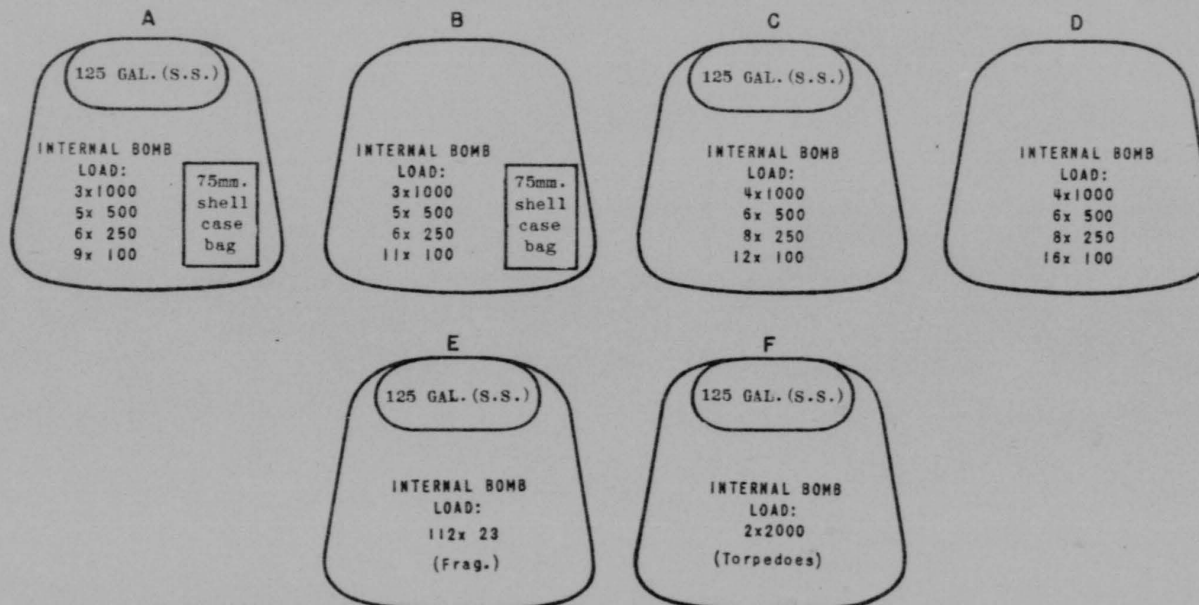
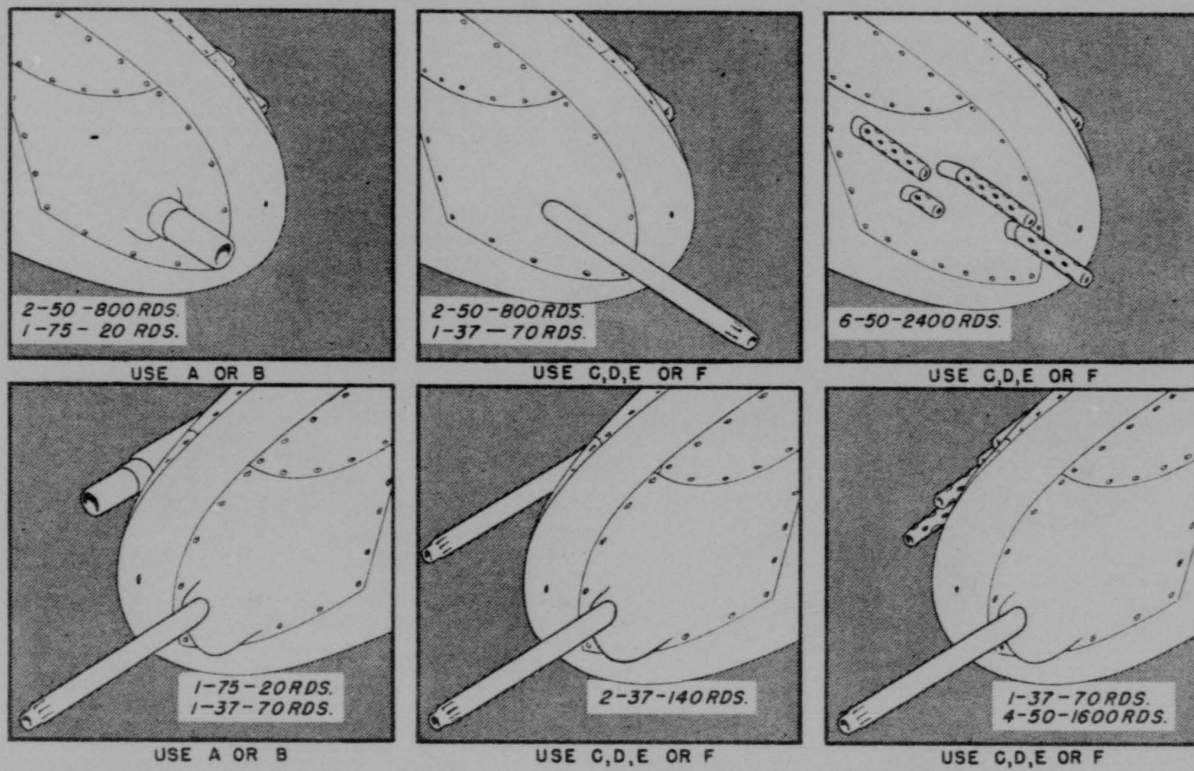
MANUFACTURED BY DOUGLAS (SANTA MONICA) "DO"

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**ALL PURPOSE NOSE & BOMB BAY**

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S.S. - Self Sealing

**A-26 B**

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**TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART**

PAGE 19  
AS OF: 08 NOV 1944  
DATE: 08 NOV 1944

MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
	ENGINE MFR. MODEL	B.H.P./ALT.	S-SPAN	B-BASIC			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		
A-26B (DL) DT -1 & -5	FRATT-WHITEY R-2800-27 SINGLE ST.-28PD. HAMILTON STD. 12"7" DIA. - 3BL. F.F., HYDROMATIC	T 2000/ S L M 2000/ 1500 C 1600/ 13500 1600/ 6500 1150/ 11600	S 70' L 49'11" H 18'6" T 19'6" W 54.0 SQ. FT.	B 23275 C 35000 A 35500 W 37000	2 3 3 3	MAIN - WINGS AUX. - WINGS BOMB BAY (SS) B. BAY (FERRY)	2 x 300 2 x 100 1 x 125 1 x 675	1-75MM 2-.50 2-.50 8-.50	20 500 500 300	NOSE CANNON, TURRET UPPER TURRET LOWER TURRET WINGS-PACKAGE (ALTERNATE INSTALLATION - SEE A)	b 1-1000 b 6- 500 b 8- 250 b 16- 100	b 2-2000T L- 500 L- 250 L- 100	L-1000 L- 500x L- 500x 6000	SCR-274M SCR-595 MN-26C RC-36 SCR-522	TECHNICAL ORDER 01-104J-1. ( 15 EDW. 1944 ) PARTS WILL BE PROCURED FOR SERVICE INSTALLATION OF ALL-PURPOSE NOSE AS SHOWN ON PAGE OPPOSITE. SEE PAGE OPPOSITE FOR BOMB LOAD CARRIED WITH 75MM. GUN. NORMAL CREW (2) ; CREW (3) WITH 75MM. CANNON. NO SELF SEALING BOMB BAY TANK ON A-26B-1-DL ONLY. TECHNICAL ORDER 01-104J-1. ( 15 EDW. 1944 ) SEE PAGE OPPOSITE FOR ALL-PURPOSE NOSE INSTALLATIONS.
A-26B (DL) DT -10 TO -20 INCL	AS ABOVE	AS ABOVE	AS ABOVE EXCEPT FOR 50'7" LENGTH	B 22775 C 35000 A 35000 W 37000	2	AS ABOVE		6-.50 2-.50 2-.50	400 500 500	NOSE UPPER TURRET LOWER TURRET WINGS-PACKAGE (ALTERNATE INSTALLATION - SEE A)	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-104J-1. ( 15 EDW. 1944 ) SEE PAGE OPPOSITE FOR ALL-PURPOSE NOSE INSTALLATIONS.
A-26C-DT -15 & -20	AS ABOVE	AS ABOVE	S 70' L 51'3" H 18'6" T 19'6" W 54.0 SQ. FT.	B 23275 C 35000 A 35500 W 37000	3	AS ABOVE		2-.50 2-.50 2-.50	400 500 500	NOSE UPPER TURRET LOWER TURRET WINGS-PACKAGE (ALTERNATE INSTALLATION - SEE A)	L-1000 6- 500 L- 250 L- 100	2-2000T L- 500 L- 250 L- 100	L-1000 L- 500x L- 500x 6000	SCR-274M SCR-595 SCR-269 RC-36 SCR-522	TECHNICAL ORDER 01-104J-1. ( - OCT. 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'		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.		WEIGHT	FT.	HIGH SPEED	RATE OF CLIMB				HIGH SPEED	RATE OF CLIMB	TO CLIMB	TIME	RANGE	ENDUR.	RANGE		ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.
A-26B (DL) DT -1 & -5	25000	-	2550	96	-	1750	20000	337	260	329	100	31.4	35000	WNR	1600	-	-	-	-	-	-	-	5110	16.1	*STRIPPED TO 35000 LB. FOR FERRYING.	
	29000	2900	2950	101	2100	2000	15000	355	720	341	520	15.3	31100	NOSE	925	770	2.5	1160	4.2	1560	6.7	-	-	1830	9.5	NOTE: WHEN 8 EXTERNAL WING PACKAGE GUNS ARE CARRIED HIGH SPEED WILL BE DECREASED APPROX. 13 MPH. AND RATE OF CLIMB 150 FT./MIN.
	32000	3700	3200	109	2550	2150	10000	346	1010	330	560	7.0	34100	3000	925	750	2.5	1030	4.0	1500	6.9	-	-	1630	8.3	
	33000	4000	3250	111	2700	2250	5000	350	1540	320	4	2.7	34600	4000	800	640	2.2	850	3.4	1270	5.9	-	-	1360	6.9	
	34000	4300	-	-	2850	-	S L	328	2030	297	8	0.0	35000	SEE (B)	800	620	2.5	-	-	870	4.1	-	-	1305	6.3	
A-26B (DL) DT -10 TO -20 INCL A-26C-DT -15 & -20	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	35000	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) REMOVABLE .50 CAL. PACKAGE GUNS MAY BE MOUNTED ON WING BOMB RACKS IN PLACE OF BOMBS.  
(B) 8 WING GUNS PLUS 112" FRAG. BOMBS. (4800 LB. TOTAL)

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

T-TORPEDO  
X-EXTERNAL



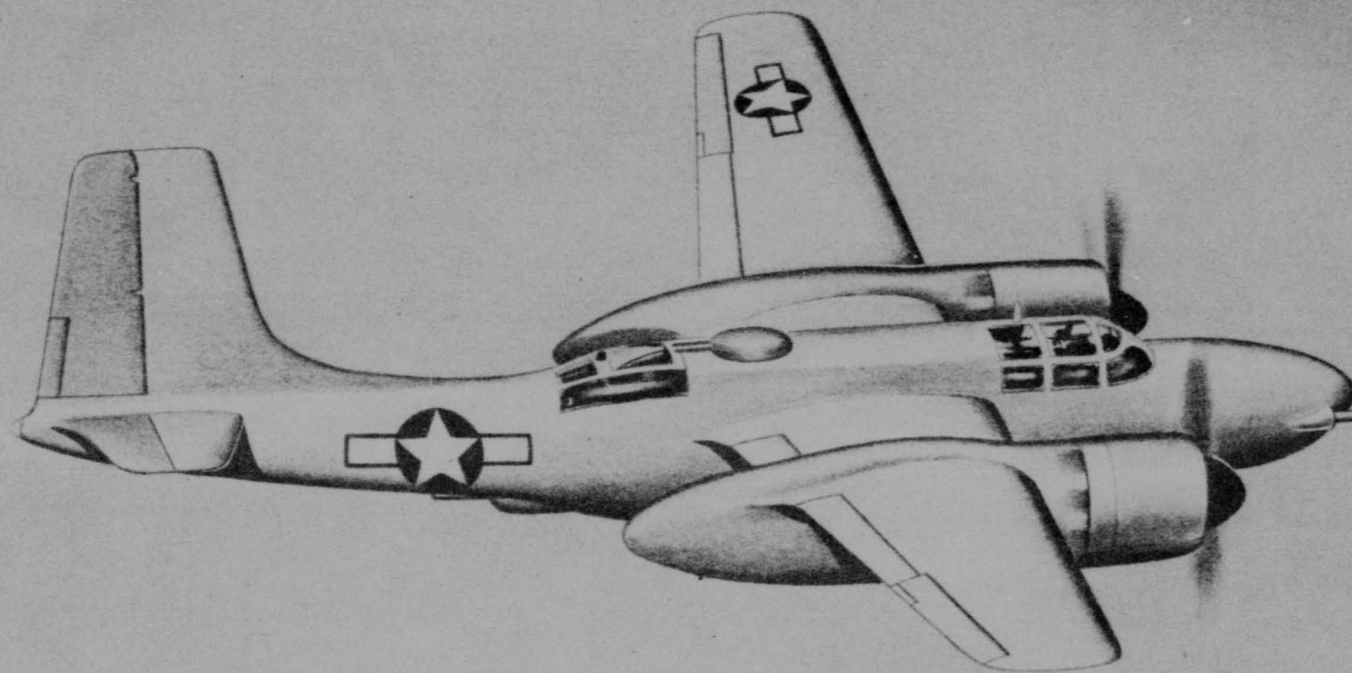
**A-26**  
"INVADER"

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

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DOUGLAS A-26B

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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	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	
A-36 A-NA	1	ALLISON V-1710-87 SINGLE SPEED CURTISS 10'9" DIA. - JEL. CONST. SPD. ELECT.	T 1325/5100 M 1325/5100 we* 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	MAIN - WING EXT. - WINGS	2 x 90 2 x 75 or 2 x 150 120 TOT.	2-.50 4-.50	200 200	NOSE - FIXED WING - FIXED	NONE	2-500 2-250	1000	SCR-271B SCR-535 SCR-995**	TECHNICAL ORDER 01-60HB-1. ( 10 JULY 1943) * WAR EMERGENCY RATING. ** LAST 25% ONLY.	
			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.
A-36 A-NA	9000	2800	3000	-	2050	2100	10000	288	500	277	300	16.6	11000	NONE	120	1100	5.6	-	-	-	-	-	2100	10.4	* WITH 2-500 LB. EXTERNAL BOMBS.
	10000	3400	3500	-	2500	2400	10000	295	1025	285	#	9.1	10000	NONE	130	1000	3.8	-	-	-	-	-	1500	7.7	
	11000	4100	-	-	3200	-	10000	310	1525	295	#	5.1	9000	NONE	180	550	2.0	-	-	-	-	-	850	3.9	
							10000	310	2075	295	#	2.4	10000	1000	180	500	2.0	-	-	-	-	-	800	3.7	

NOTES:

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK

# MILITARY POWER AVAILABLE FOR 15 MINUTES.



**A-36**  
"MUSTANG"

MANUFACTURED BY NORTH AMERICAN (INCORPORATED) "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	
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT.	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	NO. BOMBS OR STATION	NO. CARGO OR CAPACITY	MAX. LOAD LB.	TYPE		
		T-TAKE-OFF M-MILITARY C-CONTINUOUS														T-TAKE-OFF M-MILITARY C-CONTINUOUS
C-46A-CU -1 TO -45 INCL. C-46A-CK -1 & 5	PRATT-WHITNEY R-2800-51 2 SPEED CURTISS 13'6" DIA. - 4 BL. P.F. HYDROMATIC	T 2000/5 L M 2000/1500 C 1600/13500	S 108'0" L 76'4" H 22'0" T 25'0" W 1360 SQ. FT.	B 32100 C 46000 R 49600 W 56000A	3	WING-PANELS FUSELAGE	6-1100 8x100 2200 TOT.	N 0	N E	FORE-BELLY APT-BELLY MAIN-CABIN TROOPS	3700 1800 10000 or 50	15000	SCR-211, 269, 271, 287, 518, 578 & 695 NC-36, 103 & 198 AH-125-1	TECHNICAL ORDER 01-251A-1. (29 JUNE 1944) * EARLY MODELS HAVE HAMILTON STD., 3 BLADE, HYDROMATIC, 15'1" DIA. PROPELLER. * MISC. RADIO CARRIED; MAX. COMBINATION SHOWN. * EARLY MODELS LIMITED TO 40000 LB. GROSS WEIGHT & HAVE SMALL CARGO DOOR.		
C-47A to -90 (DL) C-47A to -25 (DK) C-47B to -20 (DL) C-47B-1 (DL) C-53, C & D (DL)	PRATT-WHITNEY R-1850-92 (C-47A) R-1850-90C (C-47B) HAMILTON STD. 11'7" DIA. - 3 BL. P.F. HYDROMATIC	T 1200/5 L M 1050/7000 C 1050/7000	S 95'0" L 64'6" H 17'0" T 15'6" W 987 SQ. FT.	B 18000 C 26000 R 29300 W 36500A	3	MAIN-WINGS AUX.-WINGS FUSELAGE	2x202 2x200 8x100 1604 TOT.	N 0	N E	CARGO or TROOPS or LITTERS	6000 27 18	5000 NOR 10000 MAX 11000 MAX	SCR-211, 269, 271, 287, 518, 578 & 695 NC-36, 103 & 198 AH-125-1	TECHNICAL ORDER 01-409C-1. (REV. 5 SEPT. 1944) * MISC. RADIO CARRIED; MAX. COMBINATION SHOWN. (AS/APN-2 ON SOME MODELS). C-47, C-53 & C-53C INSTALLED WITH 12 VOLT RADIO SYSTEM; OTHERS WITH 24 VOLT RADIO SYSTEM. * MODELS C-47 & C-53 SERIES SIMILAR EXCEPT FOR LARGE CARGO DOOR ON C-47. THE C-53 CARRIES 28 PERSONNEL.		
C-60A-LO ATO-5	WRIGHT R-1820-87 2 SPEED HAMILTON STD. 10'6" DIA. - 3 BL. P.F. HYDROMATIC	T 1200/5 L M 1200/5700 C 1000/8100 900/16500	S 65'8" L 49'10" H 12'0" T 15'4" W 551 SQ. FT.	B 13000 C 21000 R 21000 W 25000	3	FRONT-WINGS REAR-WINGS AUX.-CABIN	2x150 2x172 3x134 1046 TOT.	N 0	N E	BELLY CABIN or PARATROOPS	3400 6600 or 18	8500	SCR-211, 269, 271, 287, 518, 578 & 695 NC-36, 103 & 198	TECHNICAL ORDER 01-750E-1. (REV. 15 AUG. 1944) * 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 FT.		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.	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS		RANGE MILES	ENDUR. HOURS	RANGE MILES
C-46A-CU -1 TO -45 INCL. C-46A-CK -1 & 5	34000 39000 46000 50000	- 2050 2700 3500	2250 2150 2650 -	82 88 95 -	- 1200 1600 -	16000 15000 10000 5000 S L	20000 15000 10000 5000 S L	250 269 264 262 215	530 780 900 1100 1300	257 264 256 255 202	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	1600 850 750 700	6.8 4.2 3.1 3.0	- - - -	2600 1100 1200 1100	12.9 6.7 5.9 5.9	- - - -	2950 1900 1350 1200	15.8 10.0 7.1 6.7	
C-47A to -90 (DL) C-47A to -25 (DK) C-47B to -20 (DL) C-47B-1 (DL) C-53, C & D (DL)	21000 23000 26000 29300	- 1850 2400 3200	2100 2300 2600 -	66 69 73 -	- 1300 1400 1600 -	26000 15000 10000 5000 S L	20000 15000 10000 5000 S L	SAME AS FOR MAX. CONTINUOUS POWER	201 217 217* 202* 187*	180 150 720 900 -	37.0 20.0 11.0 5.0 0.0	29300 26000 29300	NONE 2000 6000**	1504 1000 804	1500 950 750	7.6 4.7 3.7	ABOVE PRAC-TICAL CRUIS-ING CEILING	2300 1150 1100	13.0 7.9 6.2	ABOVE PRAC-TICAL CRUIS-ING CEILING	3100 2050 1550	19.3 12.7 10.0	* MAX. PERMISSIBLE LEVEL FLIGHT SPEED FOR 29300 LB. **6000 LB. CARGO OR 27 TROOPS.	
C-60A-LO ATO-5	11000 17500 18500 21000 23000	- 1800 2050 2850 3300	2150 2500 2700 -	61 68 70 -	- 1700 2200 -	21000 15000 10000 5000 S L	20000 15000 10000 5000 S L	259 269 260 255* 238*	650 1300 1400 1600 1600	255 262 255 247 235	500 1000 1200 -	19.0 11.0 7.0 3.0 0.0	21000 23000	1150 5000**	1046 644	1000 600	4.5 2.7	AS ABOVE	1150 850	7.0 4.3	AS ABOVE	2300 1200	14.4 7.7	* SPEED RESTRICTED IN LEVEL FLIGHT. **5000 LB. CARGO or 18 PARATROOPS & 1200 LB. BALLAST IN NOSE.

NOTES:  
(A) PERMISSIBLE ONLY WITH ALL WING 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 21  
AS OF:  
DATE 24 APR 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-REC'D 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	1	ALLISON V-1710-27 SINGLE SPEED CURTISS 10 1/2" DIA.-3BL. CONST. SPD. ELECT.	T 1325/5100 M 1325/5100 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	MAIN - WING EXT. - WING	2 x 90 2 x 75 2 x 50 180 TOT.	2-.50 1-.50	200 200	NOSE - FIXED WING - FIXED	NONE	2-500 2-250	1000	SCR-271N SCR-535 SCR-595**	TECHNICAL ORDER 01-SOHB-1. ( 10 JULY 1943) * WAR EMERGENCY RATING. ** LAST 399 LBLY.
			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											

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			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.	T.O. 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 10000 FT.
A-36 A-NA	9000 10000 11000	2800 3400 4100	3000 3500 -	2050 2600 3200	2100 2400 -	10000 15000 20000	288 295 310 295	500 1025 1525 2075 2200	277 285 293 293 275	300 # # # #	16.6 9.1 5.1 2.4 0.0	11000 10000 9000 10000	NONE NONE NONE 1000	150 330 180 180	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.

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



**A-36**  
"MUSTANG"

MANUFACTURED BY NORTH AMERICAN (Ingwood) "NA"

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PAGE 25  
AS OF:  
DATE 20 OCT. 1944


MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE		
	NUMBER	ENGINE MFR. MODEL	B.H.P./ALT.	S-SPAN			B-BASIC	TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS PER GUN	LOCATION & TYPE	INTERNAL EXTERNAL			MAX. LOAD LB.	TYPE
		SUPERCHARGER PROP. MFR. TYPE	T-TAKE-OFF M-MILITARY C-CONTINUOUS	L-LENGTH H-HEIGHT T-TREAD W-WING AREA			C-COMBAT R-RECD LIM. W-WAR MAX.										
C-54A-DO -1&-5 C-54A-DC -1 TO -15 INCL	4	PRATT-WHITNEY R-2000-3 or -7 2 SPEED HAMILTON STD. 13'1" DIA. - 3BL. F.P., HYDROMATIC	1290/3000 940/13200 1015/9000 940/13200	S 117' 6" L 93' 10" H 27' 6" T 24' 8" W 1160 SQ. FT.	B 37000 C 58000 F 65800 W 85000A	6	INBD. - WINGS OUTBD. - WINGS FUSELAGE	2 x 490 2 x 480 4 x 450 3620 TOT.	N	0	N E	FORE-BELLY 1800 AFT-BELLY 2100 FORE-CARGO 21000 AFT-CARGO 11900 TROOPS 30 or 50	25000	SCR-211, 269, 271, 287, 297, 305 or 695, 36, 18, 105, 198, AN/ARN-7.	TECHNICAL ORDER 01-4088-1. (REV. 25 JUNE 1944) * MISC. RADIO CARRIED; MAX. COMBINATION SHOWN. NOTE: 50 TROOPS WITH FUSELAGE TANKS (3620 GAL.) 50 TROOPS WITHOUT FUSELAGE TANKS (1820 GAL.)		
C-54B (DC DO) -1 TO -15 INCL	4	AS ABOVE	AS ABOVE	AS ABOVE	B 37600 C - R 73000 W 85000A	6	INBD. - WINGS OUTBD. - WINGS AUX. - WINGS FUSELAGE	2 x 490 2 x 510 2 x 420 2 x 450 3740 TOT.	N	0	N E	TROOPS LITTERS	41 or 49* 28 or 36*	AS ABOVE EXCEPT FOR NO SCR-269	TECHNICAL ORDER 01-4088-1. (10 OCT. 1944) * 41 TROOPS or 28 LITTERS WITH FUSELAGE TANKS (3740 GAL.) 49 TROOPS or 36 LITTERS WITHOUT FUSELAGE TANKS (2812 GAL.) C-54B-1(4) PLANS HAVE REDUCED LITTER CAPACITY.		
C-69-LO -1 TO -15 INCL	4	WEIGHT R-3350-35 SINGLE or 2 SPEED HAMILTON STD. 15'2" DIA. - 3BL. F.P., HYDROMATIC	2150/3000 2135/6300* 2025/6500*	S 123' 0" L 95' 2" H 23' 8" T 28' 0" W 1650 SQ. FT.	B 50500 C 82000 R 86250B W 101000A	9	WINGS WINGS (SEE F)	2 x 1589 2 x 819 4816 TOT.	N	0	N E	60 PASS-ENGINERS	NONE	SCR-271W, (2) 269, 287, 211, & 695, RC-43/193, 36 & 102.	TECHNICAL ORDER 01-7503-1. (10 NOV. 1943) * FIRST FEW AIRPLANES EQUIPPED WITH SINGLE SPEED BLOWER. * TOTAL FUEL CAPACITY OF 1st. & 2nd. ARTICLES IS 4000 GAL.; 3rd. & SUBSEQUENT IS SHOWN. * HP. RATINGS ARE WITH SINGLE SPEED BLOWER.		
C-87-CF	4	PRATT-WHITNEY R-1830-13 TURBO HAMILTON STD. 11'7" DIA. - 3BL. F.P., HYDROMATIC	1200/3000 1200/26500 1100/27000	S 110' 0" L 66' 1/2" H 18' 0" T 25' 1/8" W 1018 SQ. FT.	B 34250 C 56000 R 56000 W 62000	5	INBD. - WINGS OUTBD. - WINGS	12 - 2364 6 - 450 2814 TOT.	1-.50	500	TAIL - FLEX. ( ON SOME MODELS ONLY )	CHAIRS or LITTERS & BENCH	20 or 7 & 11 4000 WCR 10000 MAX	SCR-271W, 269, 287, 578 & 695, RC-36, RC-43	TECHNICAL ORDER 01-50A-1. ( 15 DEC. 1943 )		

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' DIST.		LANDING SPEED MPH	GROUND-RUN		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 10000 FT.	AT 25000 FT.	AT 10000 FT.		AT 25000 FT.	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES
C-54A-DO -1&-5 C-54A-DC -1 TO -15 INCL	45000 55000 59000 62500 65000	- 2800 3300 3850 4350	2900 3400 - - -	80 90 - - -	1800 1600 1850 2150 2350	2200 2200 - - -	58000 15000 10000 5000 S L	- - - 272 260	- - - 1150 1100	269 278 276 260 245	425 800 1000 1100 1050	24.4 16.0 9.4 4.4 0.0	62000 65000 59000 65000	NONE *8500 *8500 *11000	3620 2720 1820 1820	EXCEEDS SPEED LIMITS	ABOVE PRAC-TICAL CRUISING CEILING	3300 2100 1550 1500	15.7 11.5 7.5 7.5	ABOVE PRAC-TICAL CRUISING CEILING	4000 2800 1850 1750	25.1 16.5 11.4 9.9	* 8000 LB. CARGO or 30 TROOPS & 2000 LB. EQUIPMENT. ** 11,000 LB. CARGO or 50 TROOPS & 4000 LB. EQUIPMENT.		
C-54B (DC DO) -1 TO -15 INCL	55000 59000 62500 65000 73000	2800 3300 3850 4350 -	3400 4000 4750 - -	90 95 98 - -	1400 1925 2150 2700 3100	2200 2600 - - -	73000 20000 15000 10000 5000 S L	- - - 270 255	- - - 685 700	260 276 277 285 235	265 480 685 640 600	43.0 25.0 15.1 7.1 0.0	63350 66000 60500 66500 73000*	NONE 8000 8000 11,600 21,000	3740 3906 2036 2036 2036	A S	A B O V E	3550 2700 1825 1775 1700	17.1 13.0 8.7 8.6 8.3	AS ABOVE	4250 3200 2250 2125 2050	27.1 19.0 13.4 12.6 12.2	* LANDING WEIGHT LIMITED TO 62000 LB.		
C-69-LO -1 TO -15 INCL	62000 68000 75000 82000 86000 90000	1850 2250 2750 3255 3750 4500	2575 2810 3200 - - -	87 90 92 - - -	1275 1600 1925 2200 2600 3175	1100 1390 1675 - - -	82000 20000 15000 10000 5000 S L	- - 324 322 298	- - 1575 1770	303 312 318 315 291	440 840 1220 1160 1580	22.8 13.3 7.2 3.1 0.0	82000 90000 86700 84600	NONE 8000 11,600 21,000*	4816 4816 3178 1638	- - - -	- - - -	2950 2900 1900 950	10.4 10.3 6.7 3.3	- - - -	4500 4175 2600 1150	19.9 19.3 12.5 5.5	ALL PERFORMANCE WITH SINGLE SPEED SUPERCHARGER. * ALTERNATE CARGO IN LIEU OF PASSENGERS		
C-87-CF	40000 50000 56000 60000	- 3600 5050 6600	3300 3950 4300 -	90 100 105 -	2500 2650 3600 4750	3300 3550 - -	56000 25000 20000 15000 10000 5000	- 306 293 280 266 255	600 1050 1100 1150 1200 1200	600 300 287 275 262 248	34.0 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	2635 2550 2100 1975	11.7 10.8 9.4 8.9	2835 2750 2235 2165	11.0 10.8 8.9 8.8	3000 2890 2350 2300	16.2 15.5 12.5 11.7	

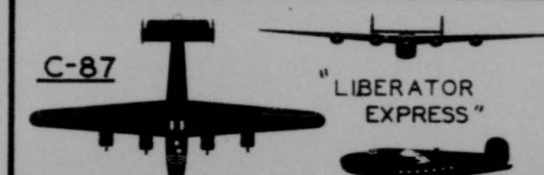
NOTES:  
(A) PERMISSIBLE ONLY WITH ALL WING TANKS FULL.  
END FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK.  
\* MILITARY POWER AVAILABLE FOR 5 MINUTES.  
(B) SUBJECT TO STRUCTURAL MODIFICATION ON LATER MODELS.



C-54 "SKYMASTER"



C-69 "CONSTELLATION"



C-87 "LIBERATOR EXPRESS"

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

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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.	B-BASIC		TANK TYPE OR LOCATION	NO. TANKS & CAPACITY U.S. GAL.	NO. GUNS & CALIBER	RDS. PER GUN	LOCATION & TYPE	INTERNAL	EXTERNAL	MAX. LOAD LB.	TYPE		
			T-TAKE-OFF M-MILITARY C-CONTINUOUS	L-LENGTH H-HEIGHT T-TREAD W-WING AREA							C-COMBAT R-RECD LIM W-WAR MAX	NO. & SIZE STATION				NO. & SIZE CAPACITY
P-38F-LO	2	ALLISON V-1710-49 & -53 TURBO CURTISS 11'6" DIA. - 3BL. F.P., 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. 1/2-50 (MAX.)	150 500	NOSE-TYPE M1 NOSE-FIXED	NO BOMBS CARRIED	SCR-165 or SCR-274	TECHNICAL ORDER 01-75-1. (30 APRIL 1944) * LIMITED TO 1150 HP. BECAUSE OF INADEQUATE COOLING.		
P-38F-LO -1 TO -15 INCL.	2	AS ABOVE	AS ABOVE	AS ABOVE	B 13600 C 15900 R 20000 W -	1	MAIN-WINGS RES.-WINGS DROP.-EXTER.	2 x 90 2 x 60 2 x 75 2 x 150 600 TOT.	A S A B O V E			2-1000 2-500 2-325 2-250 2-100	2000	SCR-274N* SCR-515** SCR-522 SCR-535	REFERENCE AS ABOVE * PROVISIONS ONLY. ** SPACE ONLY.	
P-38G-LO -1 TO -15 INCL.	2	ALLISON V-1710-51 & -55 TURBO CURTISS 11'6" DIA. - 3BL. F.P., 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 150 600 TOT.	A S A B O V E			AS ABOVE EXCEPT LAST 200 P-38G-10'S ONLY SAME AS BELOW	2-1000 2-500 2-325 2-250 2-100	2000	SCR-274N* SCR-515** SCR-522 SCR-535 SCR-695***	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 -1 & -5	2	ALLISON V-1710-59 & -91 TURBO CURTISS 11'6" DIA. - 3BL. F.P., 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 DROP.-EXTER.	2 x 90 2 x 60 2 x 75 2 x 150 600 TOT.	1-20MM. 1/2-50 (MAX.)	150 500	NOSE-AN-M2C* NOSE - FIXED	NO BOMBS CARRIED	2-1600 2-1000 2-500 2-325 2-250 2-100	3200	SCR-274N* SCR-515** SCR-522 SCR-535 SCR-695***	TECHNICAL ORDER 01-75-1. (15 SEPT. 1944) * LIMITED TO 1240 HP. BECAUSE OF INADEQUATE COOLING. ** PROVISIONS ONLY. *** SPACE ONLY.

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.	T.O. DIST. FT.	LAND. DIST. FT.	LANDING SPEED MPH	GROUND-RUN T.O. DIST. FT.	LAND. DIST. FT.	WEIGHT LB.	STD. ALT. FT.	MIL. POWER HIGH SPEED MPH.	RATE OF CLIMB FT./MIN.	MAX. CONTIN. POWER HIGH SPEED MPH.	RATE OF CLIMB FT./MIN.	TIME TO CLIMB MIN.	TAKE OFF WEIGHT LB.	BOMBS CARRIED LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER			LONG RANGE			
																	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.			
P-38F-LO	13500	-	2750	85	-	1150	15000	25000	390	2100	360	11.0													
P-38F-LO -1 TO -15 INCL.	15000	2150	2980	90	1280	1580	15000	20000	380	2300	365	8.0	15800	NONE	300	400	1.3	425	1.3	700	2.7	675	2.4	900	4.5
P-38G-LO -1 TO -15 INCL.	15000	2150	2980	90	1280	1580	15000	20000	395	2100	360	12.0	19900	NONE	900	1375	5.0	1450	5.0	2050	9.3	2050	8.6	2300	9.9
P-38H-LO -1 & -5	15500	2270	3050	91	1360	1620	15000	20000	390	2300	367	8.8	18000	NONE	600	800	2.9	850	2.9	1400	6.1	1425	5.4	1750	9.1
	17500	3040	3350	97	1830	1800	10000	15000	376	2450	354	6.0	15900	NONE	300	400	1.3	400	1.3	700	2.7	685	2.4	900	4.5
	15500	3500	-	-	2000	-	10000	15000	355	2700	340	4.0	17000	1000	300	385	1.3	395	1.3	675	2.8	650	2.4	850	4.3
	20500	4000	-	-	2300	-	5000	10000	347	2800	327	1.8	18000	2000	300	375	1.3	375	1.3	625	2.8	600	2.3	800	4.1

NOTES:

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



P-38  
"LIGHTNING"

MANUFACTURED BY LOCKHEED (Durbank) "LO"

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PAGE 35  
AS OF:  
DATE 28 OCT 1944

### TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART

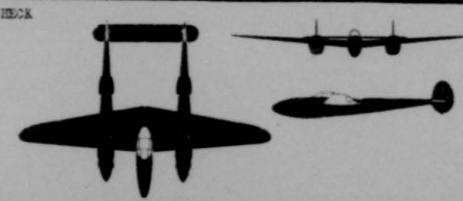
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MODEL & BLOCK NO.	ENGINE & PROP.		SIZE	WT.	COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.			RADIO	REMARKS & REFERENCE
	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. T-TAKE-OFF M-MILITARY C-CONTINUOUS				S-SPAN L-LENGTH H-HEIGHT T-TREAD W-WING AREA	B-BASIC C-COMBAT R-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		
P-38 J-LO -5 & -10	ALLISON V-1710-99 & -91 TURBO CURTISS 11'6" DIA. - 3 BL. F.P., ELECTRIC	T 1425/S L M 1425/26500 C 1100/32500	S 52' 0" L 37' 10" H 12' 10" T 16' 6" W 328 SQ. FT.	B 13700 C 16460 R 21000 W -	1	MAIN - WINGS RES. - WINGS L.E. - WINGS DROP. - EXTER.	2x 90 2x 60 2x 75 or 2x 150 or 2x 165 or 2x 200	1-20MM 4-50	150 (MAX.)	NOSE - AN M2 "C" NOSE - FIXED	NONE	2-1600 2-1000 2-500 2-325 2-250 2-100	3200	SCR-27LN* SCR-515** SCR-522 SCR-695	TECHNICAL ORDER 01-75-1. (15 SEPT. 1944) * PROVISIONS ONLY. ** SPACE PROVIDED.
P-38 J-LO -5 TO -25 INCL. [L.E. TANKS]	AS ABOVE	T 1425/S L M 1600/26500 C 1100/32500	AS ABOVE	B 14100 C 17500 R 22000 W -	1	MAIN - WINGS RES. - WINGS L.E. - WINGS DROP. - EXTER. (SEE F)	2x 90 2x 60 2x 75 or 150 or 165 or 300 1010 T.T.	A S	A B O V E	A S A B O V E	A S	A B O V E	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE * THE 2-55 GAL. LEADING EDGE WING TANKS ARE INSTALLED AT FACTORY, MOD. CENTER OR FURNISHED TO SERVICE IN KITS. ** WAR EMERGENCY RATING.
P-38 L-LO -1 & -5	ALLISON V-1710-111 & -113 TURBO CURTISS 11'6" DIA. - 3 BL. F.P., ELECTRIC	T 1425/S L M 1425/26500* C 1100/32500	AS ABOVE	B 14100 C 17500 R 22000 W -	1	AS ABOVE	AS ABOVE	A S	A B O V E	A S A B O V E	A S	A B O V E	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE ** WAR EMERGENCY RATING. * INCREASED HP. RATING IS ANTICIPATED.

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		
	GROSS WEIGHT LB.	TO CLEAR 50' DIST.		LANDING SPEED MPH	GROUND-RUN		STD. ALT. FT.	WAR EMERG. HIGH SPEED		MIL. POWER RATE OF CLIMB		MAX. CONTIN. POWER HIGH SPEED		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. FT.	LAND. FT.		T.O. FT.	LAND. FT.		HIGH MPH	RATE FT/MIN	HIGH MPH	RATE FT/MIN	HIGH MPH	RATE FT/MIN				RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS		RANGE MILES	ENDUR. HOURS
P-38 J-LO -5 & -10	15500 16500 18500 19600 20500	1900 2100 2750 3400 4350	3050 3200 3550 3750 -	105 108 116 121 -	1050 1150 1500 1850 2000	1650 1750 1900 2000 -	16450	30000 25000 20000 15000 10000 5000	413 420 408 395 380 363	1830 2665 3190 3550 3820 3960	405 342 378 355 350	1550 2500 3050 3250 3425	397 384 365 353 340 321	10.6 8.0 6.2 4.5 2.9 1.5	20950 19050 16450 18450 19650	NONE NONE NONE 2000 3200	900 630 305 300 290	1000 750 325 300 290	3.8 2.6 1.1 1.1 1.1	1000 775 350 300 275	3.8 2.6 1.1 1.1 1.1	1700 1250 600 525 475	6.7 4.5 2.3 2.2 2.0	1750 1300 600 525 500	6.9 4.6 2.2 2.0 1.9	2100 1675 800 700 650	12.0 9.2 4.5 3.7 3.8	P-38J SERIES HAVE INCREASED DRAG DUE TO EXTERNAL CORE TYPE COOLERS. PERFORMANCE VALUES ARE SHOWN WITHOUT EXTERNAL TANKS.	
P-38 J-LO -5 TO -25 INCL. [L.E. TANKS]	16000 17500 19500 20700 21600	2000 2400 3400 4800 6500	3150 3400 3750 -	109 114 121 -	1100 1300 1850 2000 -	1700 1850 2000 -	17500	30000 25000 20000 15000 10000 5000	405 414 403 390 377 360	1625 2415 2925 3265 3525 3670	395 346 385 372 361 346	1350 2200 2650 2850 3000 317	390 378 359 348 336 317	11.6 8.8 6.7 4.9 3.2 1.6	21600 20200 17500 19500 20700	NONE NONE NONE 2000 3200	1010 740 410 410 410	1050 835 460 435 400	4.2 3.1 1.6 1.6 1.6	1070 900 475 425 410	4.2 3.1 1.6 1.6 1.6	1820 1360 800 710 685	7.7 5.2 3.1 3.0 2.9	1860 1460 840 735 725	7.6 5.4 3.1 2.7 2.7	2260 1910 1175 975 900	13.4 12.0 6.7 5.3 5.3	AS ABOVE	
P-38 L-LO -1 & -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	AS ABOVE	

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



**P-38**  
"LIGHTNING"

MANUFACTURED BY LOCKHEED (Burbank) "LO"

CONFIDENTIAL

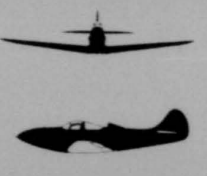
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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																
MODEL & BLOCK NO.	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS		RADIO	REMARKS & REFERENCE
	NUMBER	ENGINE MFR. MODEL SUPERCHARGER PROP MFR. TYPE	B.H.P./ALT. 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	
P-39D-BE	1	ALLISON V-1710-35 SINGLE SPEED CURTISS 10'5" DIA. - 3BL. CONST. SPD. BY RE.	T 1150/S L M 1150/12000 C 1000/10800	S 34' 0" L 30' 2" H 11' 10" T 11' 1/4" W 213 SQ. FT.	B 6500 C 7650 R 9200	1	WING TOTALS 12-120 PROP.-BELLY 1x75 or 1x156 or 1x175 295 TOT.	L-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE ML	NONE	1-500 1-325 1-250 1-100	500	SCR-283	TECHNICAL ORDER 01-11079-1. (30 JUNE 1943)	
P-39D-BE -1	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE	L-.30 2-.50 1-37MM	*1000 200 60	WING - FIXED NOSE - FIXED PROP. - TYPE ML	A S	A B O V E		SCR-274N or SCR-522A & SCR-535A	TECHNICAL ORDER 01-11079-1. (30 JUNE 1943)	
P-39D-BE -2	1	ALLISON V-1710-63 SINGLE SPEED CURTISS 10'5" DIA. - 3BL. CONST. SPD. BY RE.	T 1325/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	A S	A B O V E	A S	A B O V E	A S	A B O V E	AS ABOVE	A S A B O V E	
P-39F-BE	1	ALLISON V-1710-35 SINGLE SPEED ARMO PRODUCTS 10'5" DIA. - 3BL. CONST. SPD. BY RE.	T 1150/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	L-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE ML	A S	A B O V E		SCR-283	TECHNICAL ORDER 01-11079-1. (30 JUNE 1943)	
P-39K-BE -1	1	ALLISON V-1710-63 SINGLE SPEED ARMO PRODUCTS 10'5" DIA. - 3BL. CONST. SPD. BY RE.	T 1325/S L M 1150/12000 C 1000/10800	AS ABOVE	AS ABOVE	1	AS ABOVE	A S	A B O V E	A S	A B O V E	A S	A B O V E	SCR-274N or SCR-522A & SCR-535A	TECHNICAL ORDER 01-11079-1. (30 JUNE 1943)	

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	TO CLEAR 50'		LANDING SPEED	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	AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.		AT 10000 FT.	ENDUR. HOURS
P-39D-BE	6700 7600 7800 8150 8850	- 2800 3000 3400 4500	1850 2050 2100 2200 -	82 86 88 91 -	- 1800 2000 2250 2800	1100 1300 1350 1400 -	7650	25000 20000 15000 10000 5000	324 316 360 355 335	750 1350 2000 2150 2550	310 332 343 315 323	# 9.1 6.1 3.9 1.9	8850 8800 8150 7650 8150	NONE NONE NONE NONE 500	295 276 195 120 120	550 525 400 275 225	2.2 2.0 1.6 0.9 0.9	- - - 1.7 2.50	- - 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		A S	A B O V E						A S	A B O V E								A B O V E					A S A B O V E
P-39D-BE -2	6700 7600 7800 8150 8850	- 2500 2700 3000 4200	1850 2050 2100 2200 -	82 86 88 91 -	- 1500 1750 2000 2500	1100 1300 1350 1400 -			A S	A B O V E								A B O V E					A S A B O V E
P-39F-BE		S I M I L A R	T O	P - 3 9 D					A S	A B O V E								A B O V E					A S A B O V E
P-39K-BE -1		S I M I L A R	T O	P = 3 9 D - 2					A S	A B O V E								A B O V E					A S A B O V E

NOTES:  
RANDOM P-39 MODELS MODIFIED FOR AIR/GROUND SUPPORT BY INSTALLATION OF CAMERAS, BELLY ARMOR, ETC.  
\* 1000 RDS./GUN MAX. FOR GROUND STRAPPING; 500 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) "BE"

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AS OF: 23 SEPT. 1944  
DATE: 23 SEPT. 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 MAL.			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-39L-BE -1	ALLISON V-1710-63 SINGLE SPEED CURTISS 10'5" DIA. - 3 BL. CONST. SPD. HYDR.	T 1325/S L 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	1	WING TOTALS 12-120 DROPP.-BELLY 1x75 or 1x156 or 1x175 295 TOT.	4-.30 2-.50 1-37MM	*1000 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M4	NONE	1-500 1-325 1-250 1-100	500	SCR-274N or SCR-522A & SCR-535A	TECHNICAL ORDER 01-110PW-1. (30 JUNE 1943)			
P-39M-BE -1	ALLISON V-1710-83 SINGLE SPEED CURTISS 10'5" DIA. - 3 BL. CONST. SPD. HYDR.	T 1200/S L C 1000/11000	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-110PW-1. (30 JULY 1943)			
P-39N-BE -0 TO -5 INCL.	ALLISON V-1710-85 (A) SINGLE SPEED AERO PRODUCTS 11'7" DIA. - 3 BL. CONST. SPD. HYDR.	AS ABOVE	AS ABOVE	AS ABOVE	1	WING TOTALS 8 - 87 DROPP.-BELLY 1x75 or 1x156 or 1x175 262 TOT. SEE REMARKS	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-110PW-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.	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 30	300 200 30	WING - FIXED NOSE - FIXED PROP. - TYPE M4	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-110PW-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 -30 INCL.	ALLISON V-1710-85 (A) SINGLE SPEED AERO PRODUCTS 11'7" DIA. - 3 BL. CONST. SPD. HYDR.	AS ABOVE	AS ABOVE	AS ABOVE	1	WING TOTALS 12-120 DROPP.-BELLY 1x75 or 1x156 or 1x175 295 TOT.	2-.50 2-.50 1-37MM 30	200	NOSE - FIXED PROP. - TYPE M4	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE * P-39Q-20 HAS 3 BLADED PROPELLER; 11'7" DIA. P-39Q-30 HAS 3 BLADED PROPELLER; 11'0" DIA. P-39Q-21 & -25 HAS 3 BLADED PROPELLER; 11'7" DIA.			

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 M.P.H.	GROUND-RUN		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.		M.P.H.	FT.	M.P.H.	FT./MIN.				M.P.H.	FT./MIN.	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	
P-39L-BE -1	7000 7400 7900 8400 9100	- 2600 3100 3750 5000	1950 2000 2100 - -	84 86 89 - -	1150 1200 1300 - -	7900	25000 20000 15000 10000 5000	324 347 360 354 335	650 1250 1900 2350 2900	309 320 312 314 322	11.9 9.7 6.6 4.2 2.1	9100 8400 7900 8400	NONE NONE NONE 500	295 195 120 120	150 250 250 200	1.6 0.9 0.9 -	550 425 425 275	2.5 1.5 1.2 -	525 390 290 290	2.1 1.5 1.5 -	- - - -	- - - -	1075 750 550 400	6.0 4.2 2.5 2.3					
P-39M-BE -1	7000 7400 7900 8400 9100	- 3100 3750 4400 5500	1950 2000 2100 - -	84 86 89 - -	1200 1300 1450 - -	7900	25000 20000 15000 10000 5000	357 365 370 350 330	1200 1775 2400 2250 2050	343 352 357 337 320	12.8 9.5 7.1 4.9 2.5																		
P-39N-BE -0 TO -5 INCL.	6800 7600 8100 8700 8800	- 2550 3050 3600 3700	1850 2050 2150 - -	83 86 91 - -	1100 1300 1400 - -	7600	25000 20000 15000 10000 5000	368 375 376 357 330	1175 1825 2450 2600 2600	350 355 365 345 320	11.9 8.5 6.1 4.0 2.0	8750 8600 8050 7550 8050	NONE NONE NONE NONE 500	262 243 162 87 87	500 450 350 175 150	2.0 1.8 1.4 0.6 0.6	850 775 525 300 225	3.5 3.2 2.2 1.0 1.0	- - - 1.1 1.1	- - - - -	- - - - -	- - - - -	975 900 625 350 275	5.4 5.0 3.3 1.7 1.5					
P-39Q-BE -5		AS ABOVE	AS ABOVE	AS ABOVE				AS ABOVE	AS ABOVE	AS ABOVE																			
P-39Q-BE -10 TO -30 INCL.		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 RES./GUN MAX. FOR GROUND STRAPPING; 300 RES./GUN NORMAL.  
ATTENTION: KITS AVAILABLE IN SERVICE TO INCREASE BUILT-IN FUEL CAPACITY OF ALL P-39 & P-39M MODELS TO 120 GAL. PERFORMANCE WILL BE SAME AS SHOWN FOR P-39Q-10 THRU -30 MODELS.

RED FIGURES ARE PRELIMINARY; SUBJECT TO REVISION AFTER FLIGHT CHECK  
\* MILITARY POWER AVAILABLE FOR 15 MINUTES  
(A) \*ARRANGEMENTS ARE BEING MADE TO INSTALL CONVENTIONAL QUADRANT IN P-39Q-10 THRU P-39Q-30 ON AIRPLANES ALLOCATED TO AAF.  
P-39Q-10 THRU P-39Q-30 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) "EE"

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																	PAGE 23
CONFIDENTIAL																	AS OF:
																	DATE: 21 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.	TYPE
P-40E & E-1 - CU	1	ALLISON V-1710-39 SINGLE SPEED CURTISS 11'0" H.A. - 3EL. CONST. SPD. ELECT.	T 1150/s L M 1150/11700 C 1000/10800	S 37'4" L 31'9" H 12'4" 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 TOT.	6-.50	281 (average)	WING - FIXED	NONE	1-500 & 2-100 or 6-20. 1-325 1-250 1-100	700	SCR-283 or SCR-274N	TECHNICAL ORDER 01-25CP-1. (REV. 20 OCT. '43) * NO EXTERNAL WING BOMBS ON EARLY MODELS. * WITHOUT RAM.	
P-40F-CU - I TO -20 INCL.	1	PACKARD V-1650-1 SINGLE STG. - 2 SPD. CURTISS 11'0" H.A. - 3EL. CONST. SPD. ELECT.	T 1300/s L M 1240/11500 C 1080/9500 1010/16000	S 37'4" L 33'4" H 12'4" 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.	A .5	A B O V E	WING - FIXED	A S	A B O V E	AS ABOVE	SCR-274N or SCR-522A & SCR-535A or SCR-695	TECHNICAL ORDER 01-25CP-1 (20 JUNE 1943) REVISED * P-40F-1 LENGTH SAME AS P-40E. ALL SUBSEQUENT MODELS HAVE EXTENDED FUSELAGE.	
P-40K-CU - I TO -15 INCL.	1	ALLISON V-1710-73 SINGLE SPEED CURTISS 11'0" H.A. - 3EL. 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	A .5	A B O V E	WING - FIXED	A S	A B O V E	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-25CP-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 - I TO -20 INCL.	1	PACKARD V-1650-1 SINGLE STG. - 2 SPD. CURTISS 11'0" H.A. - 3EL. 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 FRONT - WING FUSELAGE PROP. - BELLY	1 x 54 1 x 66 1 x 52, 75 150 or 170 321 TOT.	4-.50	201 (average)	WING - FIXED	A S	A B O V E	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-25CP-1 (REV. 20 JUNE '43) * P-40L-1 FUEL AND ARMAMENT SAME AS P-40F SERIES.	
P-40M-CU - I TO -10 INCL.	1	ALLISON V-1710-81 SINGLE SPEED CURTISS 11'0" H.A. - 3EL. CONST. SPD. ELECT.	T 1200/s L M 1125/11700 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.	6-.50	281 (average)	WING - FIXED	A S	A B O V E	AS ABOVE	AS ABOVE	TECHNICAL ORDER 01-25CP-1. (REV. 25 MAY '43)	

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 FT/MIN.	RATE OF CLIMB MPH	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
P-40E & E-1 - CU	7500 8100 8400 8700 9100	- 2800 3125 3600 4300	1550 1700 1750 - -	84 87 90 - -	950 1050 1800 - -	25000 20000 15000 10000 5000	- - - - -	- - - - -	265 980 1150 2170 2100	520 300 312 313 296	18.2 11.5 7.6 4.8 2.4	10000 9100 8700 9200 8850 9550	NONE NONE NONE NONE NONE NONE	327 291 169 209 157 157	201 149 149 119 119 119	425 325 325 300 300 300	1.7 1.2 1.2 - - -	- - - - - -	675 525 450 - - -	3.0 2.2 2.1 - - -	- - - - - -	850 650 575 - - -	4.5 3.3 3.1 - - -		
P-40F-CU - I TO -20 INCL.	7500 8850 9200 9350 9550 10000	- - - - - -	1700 1900 2150 2550 2700 -	81 - - - - -	1050 1250 1300 1350 1400 -	25000 20000 15000 10000 5000	- - - - -	- - - - -	1000 1400 1860 2210 2160	500 1000 332 320 320	18.3 11.6 7.6 4.5 2.4	10000 9350 9200 8850 9550	NONE NONE NONE NONE NONE	327 232 209 157 157	327 232 209 157 157	- 550 475 375 325	- 2.0 1.7 1.3 1.3	- 550 575 425 350	- 2.3 2.0 1.8 1.8	800 700 600 500	3.4 3.0 2.2 2.2	- - - - -	1500 1000 875 700 600	8.0 5.0 4.4 3.1 3.2	
P-40K-CU - I TO -15 INCL.	7500 8800 9300 9300 9500 10000	- - - - - -	1700 1950 2000 2050 2100 -	81 - - - -	1050 1300 1350 1400 -	25000 20000 15000 10000 5000	- - - - -	- - - - -	265 1100 1650 2000 2100	350 300 312 313 296	18.5 11.2 7.5 4.9 2.4	10000 9300 9150 8800 9500	NONE NONE NONE NONE NONE	327 232 209 157 157	327 232 209 157 157	- 500 400 350 300	- 1.9 1.6 - 1.2	- - - - -	900 750 600 550	3.9 3.4 2.4 2.4	- - - -	1000 900 700 600	7.0 5.5 4.8 3.4 3.3		
P-40L-CU - I TO -20 INCL.	SUBSTANTIALLY SAME AS P-40F					SUBSTANTIALLY SAME AS P-40F					SUBSTANTIALLY SAME AS P-40F										P-40L-1 ONLY, SAME AS P-40F SERIES.				
P-40M-CU - I TO -10 INCL.	7500 8400 8800 9300 10000	- 2350 2650 3150 4000	1700 1850 1950 2000 -	81 85 - - -	1050 1200 1300 1350 -	25000 20000 15000 10000 5000	- - - - -	- - - - -	850 1500 2025 2180 2070	330 335 338 308 328	14.7 10.2 7.2 4.5 2.4	10000 9300 8800 9300	NONE NONE NONE NONE	327 232 157 157	327 232 157 157	650 450 325 300	2.5 1.8 1.1 1.1	- 750 475 375	- 2.9 1.8 1.8	1200 900 600 475	5.6 4.2 2.5 2.3	- - - -	1150 1000 700 575	8.4 5.6 3.7 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																	PAGE 29
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																	DATE: 21 OCT. 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.	TYPE		
P-40N-CU -1	1	ALLISON V-1710-S1 SINGLE SPEED CURTISS 11'0" DIA. - 3 BL. CONST. SPD. ELECT.	T 1200/8 L M 1125/17300 C 1000/16400	S 37'4" L 33'4" H 12'4" T 8'2" W 236 SQ. FT.	B 6400 C 7725 R 11000 W -	1	REAR - WING FUSELAGE DROPP. - BELLY	1 x 54 1 x 66 1x52,75, 150 or 170 202 TOT.	4-.50	201 (average)	WING - FIXED	NONE	1-500 & 2-100 or 6-20. 1-325 1-250 1-100	500	SCR-274H or SCR-522A & SCR-695	TECHNICAL ORDER 01-25CN-1. (REV. 10 OCT. 43) * PROVISIONS FOR RACKS ONLY.	
P-40N-CU -5 TO -15 INCL.	1	AS ABOVE	AS ABOVE	AS ABOVE	B 6700 C 8400 R 11500 W -	1	REAR - WING FRONT - WING FUSELAGE DROPP. - BELLY	1 x 54 1 x 37 1 x 70 1x75,150 or 2-225 * 611 TOT.	6-.50	281 (average)	WING - FIXED	NONE	1-500 & 2-500 or 2-100 or 6-20. 1-325 1-250 1-100	1500	SCR-274H or SCR-522A & SCR-695	REFERENCE AS ABOVE * PROVISIONS FOR 2-225 GAL. PERRYING TANKS or 2-500 LB. or 2-100 LB. EXTERNAL WING BOMBS IN ADDITION TO 1-500 LB. BOMB IN PLACE OF BELLY TANK. SPACE ONLY FOR 6-20LB. BOMBS	
P-40N-CU -20 THRU -30	1	ALLISON V-1710-99 SINGLE SPEED CURTISS 11'0" DIA. - 3 BL. CONST. SPD. ELECT.	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	SCR-274H or SCR-522A & SCR-695	REFERENCE AND NOTE AS ABOVE. * FIRST 1272 AIRPLANES OF P-40N-20 SERIES DO NOT HAVE MODIFIER ON AUTOMATIC SPEED-BOOST CONTROL. REMAINDER -20 & ALL -30 INCORPORATE A MANIFOLD PRESS. MODIFIER.	
P-40N-CU -35		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	* STARTING WITH -35 AUTOMATIC SPEED BOOST CONTROL IS BEING DISCONTINUED.	
P-40N-CU -40		ALLISON V-1710-115 SINGLE SPEED CURTISS 11'0" DIA. - 3 BL. CONST. SPD. ELECT.	AS ABOVE	AS ABOVE	AS ABOVE	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE		

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	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.	FT. M.P.H.	T.O. DIST. FT.	LAND. DIST. FT.			HIGH SPEED	RATE OF CLIMB FT./MIN.	HIGH SPEED	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.						
P-40N-CU -1	7000 7725 8250 8625 8950	- 2150 2950 3180 3500	1650 1750 1750 1850 1950	98 96 105 180 195	1000 1350 1700 1150 1950	7725	25000 20000 15000 10000 5000	332 346 346 331 313	1225 1850 2100 2525 2425	313 330 333 315 297	# # # # #	12.4 9.1 6.7 4.1 2.1	8850 8250 7725 8225	NONE NONE NONE 900	292 197 122 122	600 380 330 210	2.2 1.5 0.9 0.9	- 500 290 260	1050 760 430 420	4.9 3.6 1.9 2.0	- - - -	1250 850 520 480	7.4 3.8 2.8 2.5	
P-40N-CU -5 TO -15 INCL.	7000 8400 8900 9100 9500 11100	- 2700 3550 3800 4450 5700	1650 1850 1850 1900 1950	98 100 109 120 125	1600 1800 1200 1250 7500	8400	25000 20000 15000 10000 5000	325 340 343 325 308	900 1550 2130 2230 2120	306 325 328 310 291	# # # # #	13.0 8.8 6.0 4.7 2.4	11100 9500 8900 8400 8900	NONE NONE NONE NONE 500	611 331 236 161 161	1250 675 470 320 300	4.9 2.6 1.8 1.2 1.2	- - 600 400 370	2250 1250 930 600 590	10.9 6.0 4.3 2.6 2.8	- - - - -	2800 1550 1080 750 -	15.7 8.4 5.7 3.9 -	NO RANGE DATA WITH 1500 LB. BOMBS. PERFORMANCE DATA WITH EXTERNAL WING AND BELLY RACKS.
P-40N-CU -20 THRU -30		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE			AS ABOVE	AS ABOVE				RANGE FOR MAX. CONTINUOUS AND MAX. CRUISE POWER APPROX. AS ABOVE. LONG RANGE CONDITIONS SHOWN ABOVE MAY NOT BE ATTAINED ON SOME AIRPLANES BECAUSE OF PRESENT SET UP OF AUTOMATIC SPEED-BOOST CONTROL.										NO RANGE DATA AVAILABLE.	
P-40N-CU -35, -40		AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE			AS ABOVE	AS ABOVE				11100 9500 8900 8400 8900	NONE NONE NONE NONE 500	611 331 236 161 161	1250 675 470 320 300	4.9 2.6 1.8 1.2 1.2	- - 600 400 370	2250 1250 930 600 590	10.9 6.0 4.3 2.6 2.8	- - - - -	2800 1550 1080 750 -	15.7 8.4 5.7 3.9 -	

NOTES:

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



P-40  
"WARHAWK"

MANUFACTURED BY CURTISS (Buffalo) "DU"

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PAGE 31  
AS OF:  
DATE 20 OCT 1966

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
P-47D-RE -27	1	PRATT-WHITNEY R-2800-59 TURBO HAMILTON STD. 13'0" DIA.-4 BL. CONST. SPD. HYDRO.	T 2000/S L M 2000/33000 W 2535/27000 C 1625/30000	S 40'9" L 36'1" H 14'7" T 15'6" W 300 SQ. FT.	B 10700 C 11600 R 17500 W -	1	MAIN - FUS. AUX. - FUS. DROPP. BELLY OR EXT. - WINGS & BELLY	1x270 1x100 1x 75 or 1x110 2x150 & 1x110	6) or .50 8)	267 NOS. 425 MAX.	WING-FIXED	NONE	2-1000 or 3- 500 or 3- 250 or 3- 100	2500	SCR-274 or SCR-502A & SCR-335A or SCR-695	TECHNICAL ORDER 01-6580-1 (30 AUG. 1944)  WAR EMERGENCY RATING.	
P-47D-RE -28 & -30	1	PRATT-WHITNEY R-2800-59 TURBO CURTISS 13'0" DIA.-4 BL. CONST. SPD. HYDRO.	T AS ABOVE M AS ABOVE W AS ABOVE C AS ABOVE	S AS ABOVE L AS ABOVE H AS ABOVE T AS ABOVE W AS ABOVE	B 10600 C 11600 R 17500 W -	1	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	REFERENCE AS ABOVE.
P-47M-RA	1	PRATT-WHITNEY R-2800-57 TURBO HAMILTON STD. 13'2" DIA.-4 BL. CONST. SPD. HYDRO.	T 2100/S L M 2100/32750 W 2800/32500 C 1700/42000	S 40'9" L 36'1" H 14'9" T 15'6" W 300 SQ. FT.	B 11100 C 11700 R - W -	1	MAIN - FUS. AUX. - FUS. DROPP. BELLY	1x 270 1x 100 1x 110	AS ABOVE	AS ABOVE	NONE	1-500 or 1-250 or 1-100	500	AS ABOVE	AS ABOVE	T.O. BEING PREPARED AT THIS TIME  WAR EMERGENCY RATING.	

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			
	GROSS WEIGHT LB.	TO CLEAR 50' T.O. DIST. FT.		LANDING SPEED MPH	GROUND-RUN T.O. DIST. FT.		WEIGHT LB.	STD. ALT. FT.	WAR EMERG. HIGH SPEED		MIL. POWER RATE OF CLIMB		MAX. CONTIN. POWER HIGH SPEED		TAKE OFF WEIGHT LB.	BOMBS LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE						
		MPH	FT.		MPH	FT.			MPH	FT./MIN.	MPH	FT./MIN.	MPH	FT./MIN.				MPH	HOURS	MILES	HOURS	MILES	HOURS	MILES		HOURS	MILES	HOURS
		MPH	FT.		MPH	FT.			MPH	FT./MIN.	MPH	FT./MIN.	MPH	FT./MIN.				MPH	FT./MIN.	MPH	FT./MIN.	MPH	FT./MIN.	MPH		FT./MIN.	MPH	FT./MIN.
P-47D-RE -27	12000 13500 11600 15500 16500 17500	- 2300 3500 4300 4700 5000	100 104 105 - - -	1500 1700 1800 - - -	11600	30000 25000 20000 15000 10000 5000	433 436 424 407 389 370	1575 1825 2270 2650 2870 3060 3120	118 125 124 125 125 125	1225 1825 2125 2320 2415 2425	381 372 362 347 333 319	11.0 11.0 8.5 6.2 4.1 2.0	17500 16700 15400 15100 14600	NONE NONE NONE NONE NONE	780 670 480 445 370	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	2100 1050	10.0 5.3	
P-47D-RE -28 & -30	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	11600	30000 25000 20000 15000 10000 5000	426 428 415 398 382 363	1175 1425 1870 2250 2440 2425	111 107 93 93 94 94	1225 1825 2125 2320 2415 2425	381 372 362 347 333 319	11.0 11.0 8.5 6.2 4.1 2.0	17400 16600 15300 15000 14500	NONE NONE NONE NONE NONE	780 670 480 445 370	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	2100 1050	10.0 5.3	
P-47M-RA	AS ABOVE	AS ABOVE	AS ABOVE	AS ABOVE	11700	30000 25000 20000 15000 10000 5000	433 433 435 418 400 385	1575 1825 2270 2650 2870 3060 3120	118 116 105 108 106 106	1225 1825 2125 2320 2415 2425	381 386 370 355 340 326	11.0 10.2 8.3 6.0 3.9 1.9	15500 14700	NONE NONE	480 370	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	1050	5.3	

NOTES:

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



**P-47**  
THUNDERBOLT

MANUFACTURED BY REPUBLIC (Farmingdale) "RE"; (Swanville) "RA" & CURTISS (Buffalo) "CU"

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																		
CONFIDENTIAL																		
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
P-51-NA -1&-2	1	ALLISON V-1710-39 SINGLE SPEED CURTISS 10'9" DIA. - 3 BL. CONST. SPD. ELECTR.	T 1150/13750 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 31 180 TOT.	4-20MM	125	WING-TYPE M2	NONE	NONE	NO BOMBS CARRIED	SCR-27LN & 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. ELECTR.	T 1200/18000 M 1125/18000 C 1000/17500	AS ABOVE	B 6650 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 150 180 TOT.	2) .50 2) .50	280 350	OUTBD.-WINGS INBD.-WINGS	NONE	2-500 2-325 2-250 2-100	1000	SCR-27LN SCR-535 SCR-515 SCR-522 SCR-695	TECHNICAL ORDER 01-607C-1. (30 APRIL 1944) * 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													
			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'		LANDING SPEED MPH	GROUND-RUN		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.		RANGE MILES	ENDUR. HOURS	
		ENDUR. HOURS	RANGE MILES		ENDUR. HOURS	RANGE MILES		ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES				ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES	ENDUR. HOURS	RANGE MILES		ENDUR. HOURS	RANGE MILES	ENDUR. HOURS
P-51-NA -1&-2	7500 8000 8500 8800 9000	- 2600 3000 3200 3400	2600 2850 3100 3250 -	88 91 94 -	1700 1900 2100 2250 -	8600	25000 20000 15000 10000 5000	337 367 387 379 357	800 1300 1800 2000 2000	315 333 343 352 352	300 1 1 1 1	16.0 10.9 7.6 5.0 2.5	8800	NONE	180	1135 725 425 415 410	4.1 2.7 1.4 1.4 1.4	- - - - -	2000 1250 750 725 710	8.3 5.3 2.8 2.8 2.8	- - - - -	- - - - -	1000	4.5		
P-51A-NA -1 TO -10 INCL.	8000 8600 9100 9600 10300	- 2050 2250 2500 2900	2450 2750 3000 3250 -	100 103 106 -	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 6.5 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	8.3 5.3 2.8 2.8 2.8	- - - - -	- - - - -	2350 1525 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																	PAGE 33				
CONFIDENTIAL																	AS OF:				
																	DATE 21 OCT. 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 US GAL.	NO. GUNS & RDS PER GUN	LOCATION & TYPE	INTERNAL NO. & SIZE OR STATION	EXTERNAL NO. & SIZE OR CAPACITY	MAX. LOAD LB.			TYPE				
P-51B-NA -14-5 P-51C-NT -1	1	PACKARD V-1650-3 2 SPEED- 2 STAGE HAMILTON STD. 11"2"DIA.- 4BL. CONST. SPD. HYDRO.	T 1100/31000 M 1150/19800 C 1120/20500 940/34000	S 37' 0" L 32' 3" H 13' 8" T 11' 10" W 233 sq. ft.	B 7450 C 9200 R 12000 W -	1	MAIN-R. WING MAIN-L. WING DROPP. WINGS SEE (r)	1 x 92 1 x 92 2 x 75 2 x 150 484 TOT.	2) 2)	.50 350	280 350	OUTBD.-WINGS INBD.-WINGS	NOTE	2-1000 2- 500 2- 325 2- 250 2- 100	2000	SCR-27LN SCR-522 SCR-535A or SCR-695	TECHNICAL ORDER 01-60-D-1. (15 MAY. 1944) KITS AVAILABLE FOR 1x85 GAL. FUSELAGE TANKS. THESE INSTALL ED THESE MODELS WILL BE SAME AS ONES LISTED BELOW. WAR EMERGENCY RATINGS: 1500/17000' & 1225/28800' (RE- STRICTED TO MODELS EQUIPPED WITH KLG-RC5/3 OR LODGE RS5/5 SPARK PLUGS.)				
P-51B-NA -7-10 P-51C-NT -3	1	AS ABOVE	AS ABOVE	AS ABOVE	B 7450 C 9800 R 12000 W -	1	MAIN-R. WING MAIN-L. WING FUSELAGE DROPP. WINGS SEE (r)	1 x 92 1 x 92 1 x 85 2 x 75 569 TOT.	A	S	A	B	O	V	E	AS ABOVE OR SCR-27LN & MS-260 COMBINATION	REFERENCE AS ABOVE NOTE: LAST 550 P-51B-5 MODELS BECOME B-7 UPON ADDITION OF 1x85 GAL. FUSELAGE TANK. P-51C-3 ARE MODIFIED P-51C-1's.				
P-51B-NA -15 P-51C-NT -54-10	1	PACKARD V-1650-7 2 SPEED- 2 STAGE HAMILTON STD. 11"2"DIA.- 4BL. CONST. SPD. HYDRO.	T 1150/31600 M 1630/13600 C 1250/27200 1130/29000	AS ABOVE	AS ABOVE	1	AS ABOVE	SEE (r)	A	S	A	B	O	V	E	AS ABOVE	REFERENCE AS ABOVE WAR EMERGENCY RATINGS: 1790/11500' & 1530/21600' (RE- STRICTED TO MODELS EQUIPPED WITH KLG-RC5/3 OR LODGE RS5/5 SPARK PLUGS.) SOME P-51C-5-NT MODELS FOR RECONNAISSANCE WILL NOT CARRY 1x85 GAL. FUSELAGE TANK.				
P-51D-NA -54-10 P-51D-NT -5	1	AS ABOVE	AS ABOVE	AS ABOVE	B 7635 C 10100 R 11800 W -	1	MAIN-R. WING MAIN-L. WING FUSELAGE DROPP. WINGS SEE (r)	1 x 92 1 x 92 1 x 85 2 x 75 410 TOT.	2) 2) 2)	.50 270 350	270 270 350	OUTBD.-WINGS CENTER-WINGS INBD.-WINGS ALTERNATE INSTALLATION	A	S	A	B	O	V	E	SCR-522 OR PARTIAL SCR-27LN INSTALL.	TECHNICAL ORDER 01-60-E-1. (30 JULY 1944)
P-51K-NT -1							P-51K SAME AS ABOVE EXCEPT FOR 11'0" DIA. AEROPRODUCTS PROPELLER; PERFORMANCE FIGURES WILL BE SLIGHTLY LESS THAN SHOWN FOR P-51D AIRPLANE.														

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				
	GROSS WEIGHT LB.	TO CLEAR 50' DIST.		LANDING SPEED MPH	GROUND-RUN DIST.		STD. ALT. FT.	WAR EMERG. HIGH SPEED RATE OF CLIMB FT/MIN		MIL. POWER HIGH SPEED RATE OF CLIMB FT/MIN		MAX. CONTIN. POWER HIGH SPEED RATE OF CLIMB FT/MIN		TAKE OFF WEIGHT LB.	BOMBS PASS. LB.	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER AT 10000 FT.		MAX. CRUISE POWER AT 10000 FT.		LONG RANGE AT 10000 FT.						
		FT.	FT.		FT.	FT.		MPH	MPH	MPH	MPH	MPH	MPH				MPH	MPH	MPH	MPH	MPH	MPH		MPH	MPH	MPH	MPH
P-51B & C (V-1650-3)	8000 9500 9000 9500 10000 11000	- 2100 2200 2300 2500 3000	2000 2100 2200 2300 2500 3000	100 103 106 109 1800 2100	- 1350 1500 1650 1800 2100	1200 1300 1400 1500 -	9200	410 430 427 424 406 388	2000 2650 2700 3025 3380 3280	1535 1830 1827 1814 1900 1774	2000 2390 2490 2825 2900 2780	397 390 405 373 353 345	11.0 8.9 7.0 5.3 3.6 1.8	11200 10200 9200 10200 11200	NONE NONE NONE 1000 2000	484 334 184 184 184	1275 850 475 450 430	4.4 3.0 1.6 1.6 1.5	1700 1050 550 500 510	4.7 3.2 1.7 1.7 1.6	1925 1350 750 675 620	7.6 5.5 2.8 2.8 2.4	- - - - -	- - - - -	2200 1150 850 775 690	10.0 7.1 3.9 3.7 -	NOTE: HIGH SPEED AND CLIMB SHOWN WITHOUT BOMB RACKS; RACKS DECREASE HIGH SPEED 12 M.P.H. & RATE OF CLIMB LESS THAN 100' MIN.
P-51B & C (V-1650-7)	8000 9000 9800 10300 10800 11800	- 2100 2200 2350 2900 3400	2000 2100 2200 2350 2900 3400	100 103 106 109 2050 2350	- 1500 1550 1650 1800 2100	1400	9800	410 439 426 414 417 395	1535 1830 1825 1814 1816 1650	2000 2390 2490 2700 3300 3500	397 390 405 373 353 340	11.0 8.4 6.5 4.7 3.0 1.5	11200 10200 9200 10200 11200	NONE NONE NONE 1000 2000	484 334 184 184 184	1460 960 555 515 500	4.9 3.3 1.7 1.7 1.7	1820 1090 600 550 535	4.9 3.4 1.7 1.7 1.7	- - - - -	- - - - -	1790 660 570	5.8 1.9 1.9	2045 1390 825 740 705	9.1 6.6 3.5 3.4 3.1	AS ABOVE	
P-51B & C (V-1650-3) FUSELAGE TANK	8000 9000 9800 10300 10800 11800	- 2100 2200 2350 2900 3400	2000 2100 2200 2350 2900 3400	100 103 106 109 2050 2350	- 1500 1550 1650 1800 2100	1400	9800	410 439 426 414 417 395	1535 1830 1825 1814 1816 1650	2000 2390 2490 2700 3300 3500	397 390 405 373 353 340	11.0 9.6 7.4 5.6 3.8 1.7	11800 10800 9800 10800 11800	NONE NONE NONE 1000 2000	569 419 269 269 269	1500 1075 750 675 650	5.3 3.8 2.4 2.4 2.4	1875 1325 875 825 800	5.7 4.2 2.6 2.6 2.6	2275 1625 1125 1025 940	9.0 6.5 4.3 4.1 3.8	- - - - -	- - - - -	2600 1800 1275 1175 1065	11.8 8.7 5.5 5.4 4.8	AS ABOVE	
P-51B & C (V-1650-7) FUSELAGE TANK	8000 9000 9800 10300 10800 11800	- 2100 2200 2350 2900 3400	2000 2100 2200 2350 2900 3400	100 103 106 109 2050 2350	- 1500 1550 1650 1800 2100	1400	9800	410 439 426 414 417 395	1535 1830 1825 1814 1816 1650	2000 2390 2490 2700 3300 3500	397 390 405 373 353 340	11.8 9.0 6.9 4.9 3.1 1.5	11800 10800 9800 10800 11800	NONE NONE NONE 1000 2000	569 419 269 269 269	1730 1250 845 785 775	5.8 4.5 2.6 2.6 2.6	1920 1100 940 895 840	5.8 4.3 2.6 2.6 2.6	- - - - -	- - - - -	2130 1030 890	6.9 3.0 3.0	2410 1800 1360 1135 1075	10.8 8.3 5.4 5.2 4.7	AS ABOVE	
P-51D (V-1650-7) FUSELAGE TANK	8000 9000 9800 10300 10800 11800	- 2100 2200 2350 2900 3400	2000 2100 2200 2350 2900 3400	100 103 106 109 2050 2350	- 1500 1550 1650 1800 2100	1400	10100	433 437 424 413 416 395	1500 1950 2575 2775 2925 3475	1330 1950 2125 2300 2925 3100	413 404 388 387 360 340	12.6 9.5 7.3 5.2 3.3 1.7	11100 10100 11100 1000 12100	NONE NONE 1000 2000	419 269 269 269	1050 720 650 620	3.7 2.3 2.3 2.3	1125 765 700 670	3.5 2.2 2.2 2.2	1675 1140 1000 -	6.8 4.3 4.0 -	- - - -	- - - -	1850 1250 1175 -	8.7 5.7 5.6 -	NOTE: HIGH SPEED AND CLIMB SHOWN WITHOUT RACKS. NEW TYPE BOMB RACKS DECREASE HIGH SPEED 4 M.P.H.	

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

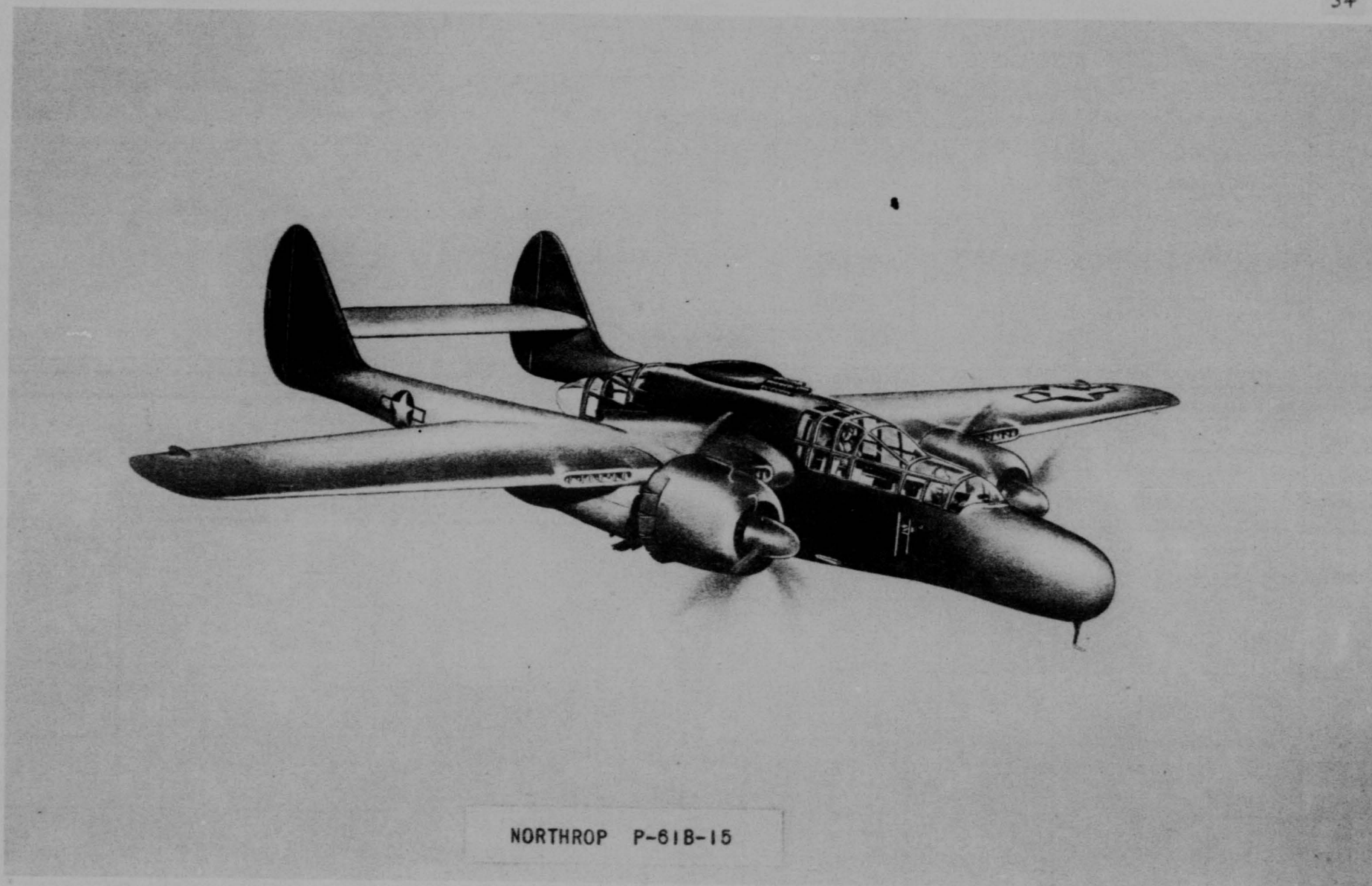
**P-51  
"MUSTANG"**

MANUFACTURED BY NORTH AMERICAN (LONGFORD) "NA" & NORTH AMERICAN (DALLAS) "NT"

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NORTHROP P-61B-15

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PAGE 35  
AS OF:  
DATE 24 OCT. 1944

### 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.		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	
			T-TAKE-OFF M-MILITARY C-CONTINUOUS	M-MILITARY C-CONTINUOUS													
P-61A-NO -1	2	PRATT-WHITNEY R-2800-10 2 SPD.-2 STG. CURTISS 12"2" DIA.-4 BL. P.P. ELECTRIC	2000/2000 2000/14000 1800/15600 1575/20900 1575/21400 1625/17800 1550/22700	5 66' L 48'11" H 14' 2" T 17' 2" W 66 1/2 SQ. FT.	B 22300 C 27600 R 40000 W -	2	DNED. - WING OUTRD. - WING	2 x 115 2 x 200 630 TOT.	4-20mm 4-.50	200	560	FORE-FUSELAGE UPPER TURRET	N O N E	N E		SCR-522 SCR-695 SCR-720 SCR-729 DET. 138 RC - 36 AN/ARC-3	TECHNICAL ORDER 01-15FB-1 (15 OCT. 1944) UPPER TURRET ON 1st.(37) P-61A-1's ONLY. CREW OF (3) FOR MODELS WITH TOP TURRET.
P-61A-NO -5, -10 & -11 P-61B-NO -1, -2, -5 & -6	2	PRATT-WHITNEY R-2800-65 2 SPD.-2 STG. CURTISS 12"2" DIA.-4 BL. P.P. ELECTRIC	AS ABOVE PLUS THESE WAR EMERG. RATINGS 2250/1500 2060/13000 1925/17500	AS ABOVE	B 22300 C 28000 R 40000 W -	2	DNED. - WING OUTRD. - WING EXT. - WING (See f)	2 x 115 2 x 200 2x165 or 2x310 <sup>f</sup> 1250 TOT.	4-20mm	200		FORE-FUSELAGE	NONE	2-1600 <sup>f</sup> 2-1000 2-500 2-325 2-250 2-100	3200	AS ABOVE PLUS: APN-1 & AFS-13 (See f)	REFERENCE AS ABOVE EXTERNAL WING TANKS or 2-1600 LB. BOMBS CAN BE CARRIED ON P-61A-11; P-61B-2 & -6 ONLY. THE 310 GAL. EXTERNAL PRESSURIZED FUEL TANKS WILL BE AVAILABLE IN NEAR FUTURE. AFS-13 ON P-61B-5 & -6 ONLY.
P-61B-NO -10	2	AS ABOVE	AS ABOVE	AS ABOVE	B 23450 C 29700 R 40000 W -	2	DNED. - WING OUTRD. - WING EXTER. - WING (See f)	2 x 115 2 x 200 4x165 or 4x310 1870 TOT.	4-20mm 4-.50	200	560	FORE-FUSELAGE UPPER TURRET	NONE	4-1600 <sup>f</sup> 4-1000 4-500 4-325 4-250 4-100	6400	SAME AS P-61A-1 PLUS: APN-1 & AFS-13	REFERENCE AS ABOVE EXTERNAL WING TANKS or 4-1600 LB. BOMBS CAN BE CARRIED. THE 310 GAL. EXTERNAL PRESSURIZED FUEL TANKS WILL BE AVAILABLE IN NEAR FUTURE.
P-61B-NO -15	2	AS ABOVE	AS ABOVE	AS ABOVE	B 23450 C 29700 R 40000 W -	3	AS ABOVE	4-20mm 4-.50	200	560		FORE-FUSELAGE UPPER TURRET	A S A B O V E	A S A B O V E	AS ABOVE		REFERENCE AS ABOVE

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 ST. TUTE. AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										REMARKS
	TO CLEAR 50'		LANDING SPEED	GROUND-RUN		WEIGHT	STD. ALT.	WAR EMERG. HIGH SPEED	MIL. POWER RATE OF CLIMB	MAX. CONTIN. POWER HIGH SPEED	TIME TO CLIMB	TAKE OFF WEIGHT	BOMBS CARGO	TOTAL FUEL U.S. GAL.	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE						
	T.O. DIST.	LAND. DIST.		T.O. DIST.	LAND. DIST.										AT 10000 FT.	AT 25000 FT.	AT 10000 FT.	AT 25000 FT.	RANGE	ENDUR.	RANGE	ENDUR.	RANGE	ENDUR.	
	FT.	FT.	FT.	FT.	FT.	FT.	M.P.H.	FT./MIN.	M.P.H.	FT./MIN.	M.P.H.	FT./MIN.	MIN.	LB.	LB.	MILES	HOURS	MILES	HOURS	MILES	HOURS				
P-61A-NO -1	24000	-	2050	-	1100	25000	360	1040	360	11.0	27600	NONE	630	350	1.2	350	1.2	765	3.1	600	2.4	900	4.6	ALL PERFORMANCE SHOWN WITHOUT DE-ICE.	
P-61A-NO -5, -10 & -11 P-61B-NO -1, -2, -5 & -6	26000	2550	2175	-	1600	20000	356	1575	355	10.1	32000	NONE	1250	780	2.7	-	-	1525	5.7	-	-	1900	9.5	AS ABOVE	
P-61B-NO -10	28000	2900	2300	-	1900	15000	364	2240	350	19.0	30100	NONE	960	575	2.0	575	2.0	1100	5.0	-	-	1350	6.6	AS ABOVE	
P-61B-NO -15	29000	3050	2375	-	2050	10000	355	2550	323	20.0	28000	NONE	630	350	1.2	350	1.2	765	3.1	600	2.4	900	4.6	AS ABOVE	
	30500	3350	-	-	2300	5000	336	2600	324	21.50	30000	2000	630	-	-	-	-	-	-	-	-	-	-	AS ABOVE	
	32500	3200	-	-	2650	S L	333	2925	313	21.60	32000	1000	630	-	-	-	-	-	-	-	-	-	-	AS ABOVE	
						25000	352	630	356	8.00	38000	NONE	1870	-	-	-	-	-	-	-	-	-	-	AS ABOVE	
						20000	366	1400	354	13.00	34100	NONE	1250	780	2.7	-	-	1100	5.0	-	-	1350	6.6	AS ABOVE	
						15000	362	1960	348	15.70	32100	NONE	960	575	2.0	575	2.0	1100	5.0	-	-	1350	6.6	AS ABOVE	
						10000	352	2220	331	16.80	31700	NONE	630	350	1.2	350	1.2	765	3.1	600	2.4	900	4.6	AS ABOVE	
						5000	333	2250	322	18.20	31700	2000	630	-	-	-	-	-	-	-	-	-	-	AS ABOVE	
						S L	330	2550	307	20.90	33700	1000	630	-	-	-	-	-	-	-	-	-	-	AS ABOVE	

NOTES:

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



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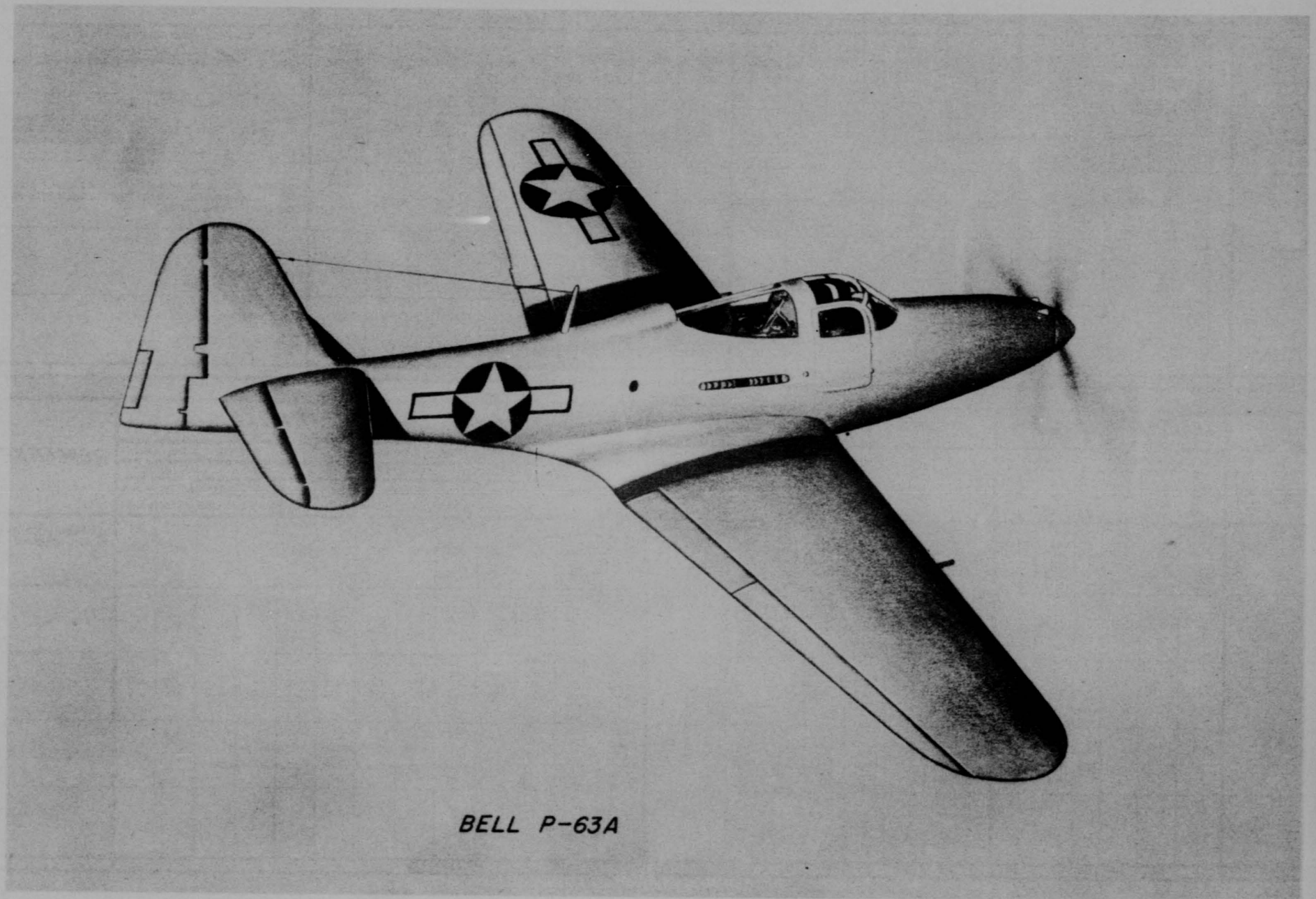
"BLACK WIDOW"

MANUFACTURED BY NORTHERP (HAWTHORNS) "60"

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BELL P-63A

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TACTICAL PLANNING CHARACTERISTICS & PERFORMANCE CHART																	
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MODEL & BLOCK NO.	NUMBER	ENGINE & PROP.		SIZE		WT.		COMBAT CREW	FUEL		ARMAMENT			BOMBS-CARGO-PASS.		RADIO	REMARKS & REFERENCE
		ENGINE MFG. MODEL	B.H.P./ALT.	S-SPAN	B-BASIC	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.	RADIO TYPE		
P-63A-BE -1 TO -7 INCL.	1	ALLISON V-1710-93 2 STAGE AKRO PRODUCTS 11'7" DIA. - (SEL. CONST. SPD., HYDRO)	T 1325/S L W 1150/21200 M 1500/S L C 1000/20000	S 38'4" L 32'8" H 12'3" T 14'7" W 218 SQ. FT.	B 6925 C 8350 R 8900	1	MAD - WINGS DROPP - BELLY & DROPP - WINGS (See f) 461 TOT.	2 x 68 1 x 75 1 x 75 2 x 75	1-37mm 2-.50 2-.50	30 250 200	PROP.-TYPE W4 WING - FIXED NOSE - FIXED	NONE	1-500 1-325 1-250 1-100	500	SCR-271M & RC-148 or SCR-522A DETROIA 438 & SCR-605	TECHNICAL ORDER 01-110FP-1 (30 AUG. 1944) f DROPPABLE WING TANKS ADDED TO P-63A-6 & SUBSEQUENT. we WAR EMERGENCY RATING.	
P-63A-BE -8-9	1	ALLISON V-1710-93 2 STAGE AKRO PRODUCTS 11'0" DIA. - (SEL. CONST. SPD., HYDRO)	M AS ABOVE	L AS ABOVE	C AS ABOVE	1	MAD - WINGS DROPP - BELLY & DROPP - WINGS (See f) 461 TOT.	2 x 68 1 x 64 1 x 75 2 x 75	1-37mm (30 250 200	PROP.-TYPE W4 PROP.-TYPE W4 WING - FIXED NOSE - FIXED	A O A	B O Y E	AS ABOVE		REFERENCE AS ABOVE a TYPE W43 CANNON ON P-63A-9. f PROVISIONS FOR 125 GAL. SELF SEALING BELLY TANK.		

MODEL & BLOCK NO.	TAKE OFF & LANDING						HIGH SPEED & CLIMB										RANGE & ENDURANCE										REMARKS
	HARD SURFACE - NO WIND						AT NORMAL COMBAT WEIGHT										STATUTE AIR MILES - NO WIND - NO ALLOWANCE FOR RESERVE										
	TO CLEAR 50'		GROUND-RUN				WEIGHT	STD. ALT.	WAR EMERG.		MIL. POWER		MAX. CONTIN. POWER		TAKE OFF WEIGHT	BOMBS	TOTAL FUEL	MAX. CONTINUOUS POWER		MAX. CRUISE POWER		LONG RANGE					
P-63A-BE -1 TO -7 INCL.	7700	1700	1800	-	1070	1110			30000	392	1680	392	1680	350				10.1	10500	NONE	461	-	-	-	-	-	-
	8300	2140	-	-	1320	-	25000	401	2380	401	2380	365	7.6	9500	NONE	511	785	3.2	850	3.1	1100	4.9	-	1400	7.5		
	8700	2520	-	-	1520	-	20000	398	3030	388	3030	370	5.7	8850	NONE	211	500	2.1	600	2.1	700	3.2	-	950	4.8		
	9500	2900	-	-	2000	-	15000	387	3590	372	3540	355	4.2	8350	NONE	136	400	1.3	485	1.3	550	2.1	-	700	3.2		
	10500	4500	-	-	3100	-	10000	373	3815	355	3690	335	2.8	8850	500	136	350	1.3	350	1.3	450	2.0	-	600	3.0		
P-63A-BE -8-9	A S A B O V E						6350	30000	402	1730	402	1730	359	10.1												A S A B O V E	

NOTES:

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



**P-63**  
"KINGCOBRA"

MANUFACTURED BY BELL (Buffalo) "BE"

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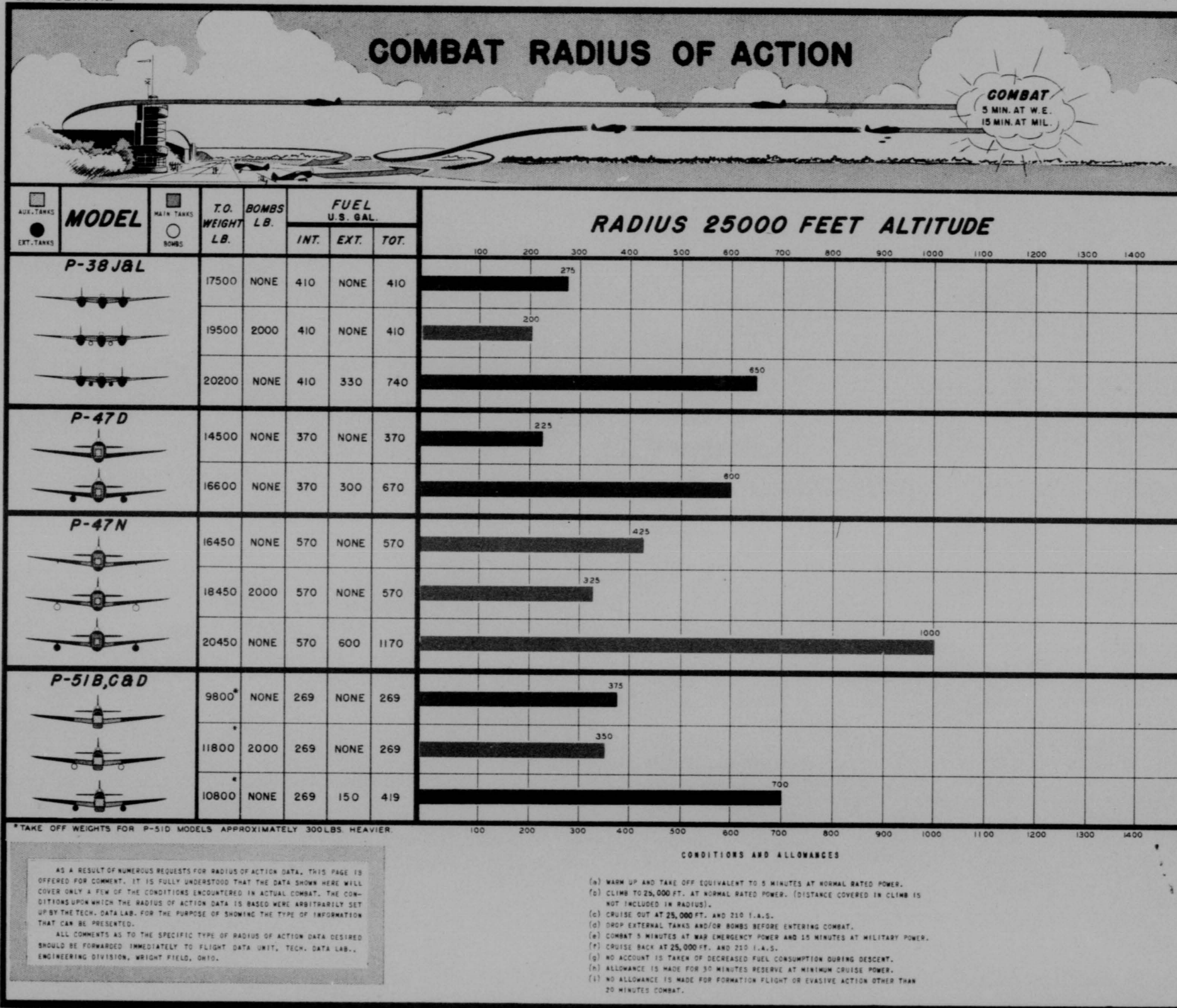
## CHANGE IN DATA P-47N

LATEST INFORMATION SHOWS THAT THE INTERNAL WING TANKS WITH A DESIGN CAPACITY OF 2 x 100 GALS. ACTUALLY HOLD 2 x 93 GALS. THE USUABLE FUEL IS 2 x 90 GALS. RADIUS OF ACTION WILL BE APPROXIMATELY 55 MILES LESS THAN RADIUS SHOWN ON CHART.

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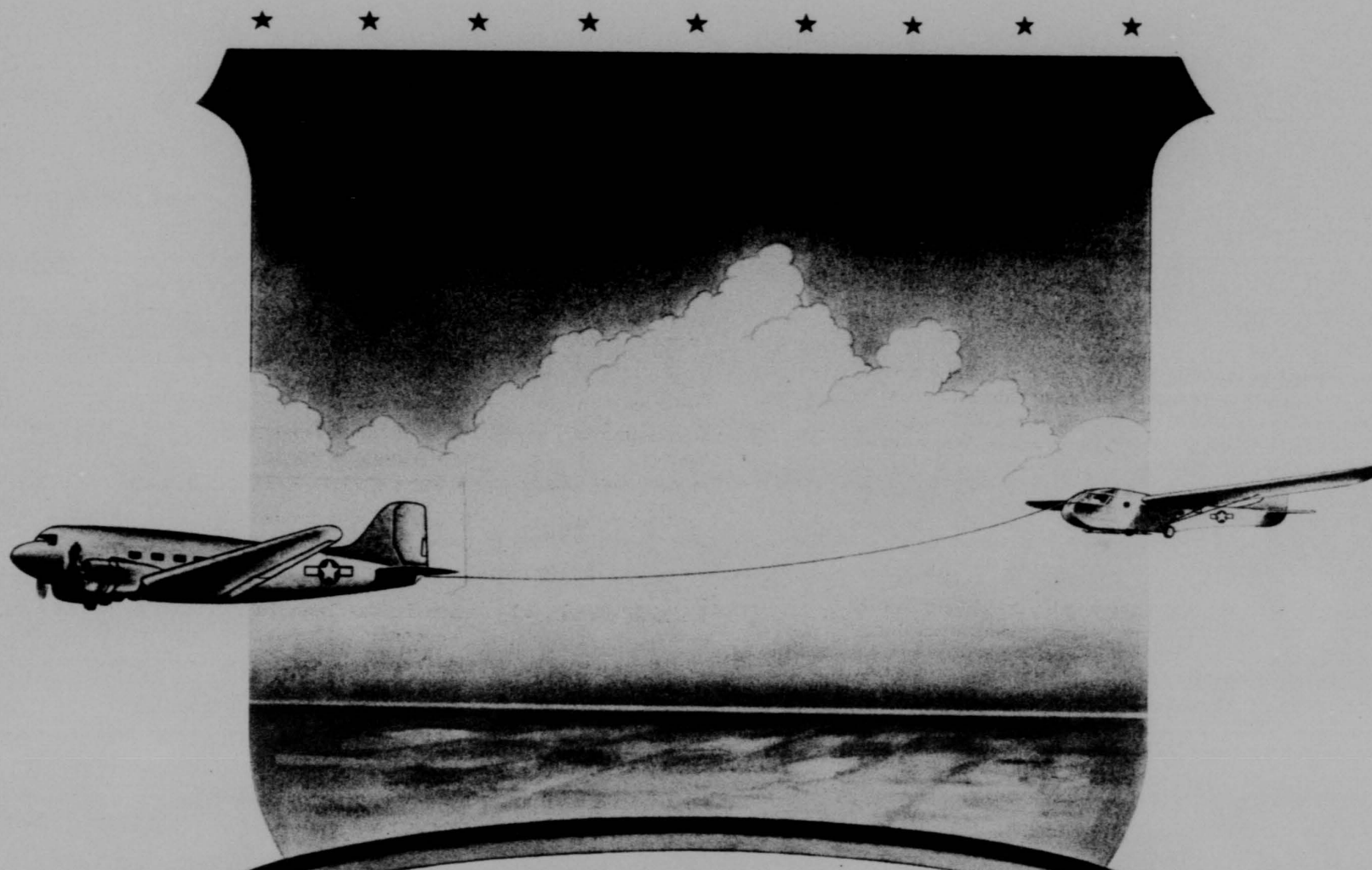
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**GLIDER AND  
TOWPLANE SECTION**

1-NOVEMBER-1944

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## FOREWORD

## WARNING

**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 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

<b>LOADING:</b>	Typical loadings of glider and towplane for tactical missions.
<b>Note:</b>	Weight and fuel quantities shown apply to all performances values to the right on the same line.
<b>Max. tow speed:</b>	Maximum permissible calibrated indicated air speed for towing glider at weight shown.
<b>TAKE OFF: (To clear 50' object)</b>	Distances representative of minimum airport requirements.
<b>Take off speed:</b>	Normal for average pilot. (Towplane I.A.S.)
<b>Ground run:</b>	Distances representative of minimum runway requirements.
<b>CLIMB (I.A.S. for climb)</b>	Minimum towplane indicated air speed for good control & satisfactory engine cooling.
<b>Initial rate of climb:</b>	Sea level rate of climb at minimum towplane indicated air speed.
<b>Note:</b>	For some combinations rate of climb tends to increase up to critical altitude of tow-
<b>Service ceiling:</b>	Altitude at which rate of climb is 100'/min.
<b>Time to service ceiling:</b>	Time to climb in minutes from sea level to service ceiling based on I.A.S. for climb.
<b>RANGE &amp; ENDURANCE:</b>	(See discussion under foreword)
<b>Radius of action:</b>	Distance glider can be towed and released with towplane having enough fuel to return to base alone.
<b>Time out:</b>	Time from take off to release of glider, (At recommended cruising altitude).
<b>Time back:</b>	Time required for towplane to return to base alone at recommended cruising speed and altitude.
<b>Max. range &amp; endurance:</b>	Practical maximum range which glider can be towed under conditions set forth and corresponding time required.

RED PRINT: Preliminary estimates or calculated data.

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# TOWPLANE & GLIDER TACTICAL PLANNING PERFORMANCE CHART

AS OF:  
23 MAR. 1945

## 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 MAXIMUM 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 I.A.S.	GROUND RUN DISTANCE (FT.)	I.A.S. FOR CLIMB (M.P.H.)	INITIAL RATE OF CLIMB (FT./MIN.)	SERVICE CEILING (FT.)	TIME TO SERVICE 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.)	RADIUS (MI.)									TIME OUT (HRS.)	TIME BACK (HRS.)	RANGE (MI.)		ENDUR. (HRS.)		
	COLUMN—	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20
B-17F & (1) CG-4A	7500	3800	59100	NONE	2780	150	6150	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	6225	115	3475	140	530	12000*	24	(870)	6.3	5.3	5000	1360	9.7	* LIMITED- NO OXYGEN IN GLIDER	
	7500	3800	59000	6000	2344	150	6075	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	

**NOTES:**

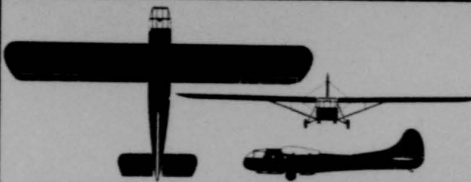
- (1) REFERENCE MATERIAL FROM TECHNICAL ORDER 01-1-143 dated 1 DEC. 1943.  
 (2) ALL PERFORMANCE SHOWN WITH GLIDER TRAINING GEAR ATTACHED.

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-4D TO  
 BE SAME AS WITH CG-4A.

**GLIDER CHARACTERISTICS**

WEIGHT		SIZE
B - BASIC		
C - COMBAT		L - LENGTH
W - WAR MAX.		H - HEIGHT
		T - TREAD
		W - WING AREA
TYPICAL GLIDER CAPACITIES		
B - (3700 to 4500)	(a) TROOP CARRIER: CREW(2) & TROOPS(13).	S - 83'8"
C - 7500	(b) CARGO CARRIER: CREW(2) & TROOPS(4) & JEEP CAR(1).	L - 48'4"
W - 9000	(c) CARGO CARRIER: CREW(2) & TROOPS(3) & 75MM. HOWITZER(1) & 75MM. AMMUNITION(18 RDS.)	H - 12'7"
		T - 9'4"
		W (Tact. gear) 852 SQ. FT.

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## TOWPLANE &amp; GLIDER TACTICAL PLANNING PERFORMANCE CHART

PAGE 15  
AS OF:  
21 OCT. 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 MAXIMUM 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 SERVICE 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.)	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	47	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	30	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	85	3000	120	275	11350	44	560	4.6	4.4	5000	830	6.8		
C-47, 47A & 53 (PADDLE BLADE PROPS.) & (1)CG-4A	7500 7500 7500	3800 3800 3800	26000 29000 31000	3000 6000 8000	804 804 804	150 150 150	4625 5400 5950	80 85 85	3050 3250 3450	105 105 105	515 410 350	12000* 11300 10400	31 37 39	575 515 520	4.8 4.6 4.4	3.6 3.4 3.2	5000 5000 5000	955 870 820	8.0 7.3 6.9	*LIMITED - NO OXYGEN IN GLIDER.	
C-47, 47A & 53 (PADDLE BLADE PROPS.) (1) CG-4A (TOWPLANE EQUIPPED WITH PARA-PACK RACKS)	7500 7500	3800 3800	26000 29000	3000 6000	804 804	150 150	4800 6150	80 80	3200 3400	105 105	465 370	11800 10600	35 38	525 485	4.4 4.1	3.6 3.4	5000 5000	870 830	7.3 6.9		
C-47, 47A & 53 (PADDLE BLADE PROPS.) & (2) CG-4A	7500 7500 7500 7500	3800 3800 3800 3800	24200 26000 29000 31000	1200 3000 6000 8000	804 804 804 804	150 150 150 150	6200 6900 7250 8850	80 80 80 85	3525 3750 4450 5550	105 105 105 105	220 180 125 80	7800 7300 8000 -	46 50 57 38*	450 435 395 370	4.0 3.8 3.7 3.4	3.0 2.9 3.3 3.1	2000 2000 2000 1000	665 630 520 470	5.8 5.5 4.5 4.4	* TO 3000 FT. ALTITUDE.	
C-60A & (1)CG-4A	7500 7500	3800 3800	18500 21500	NONE 3000	644 644	150 150	4000 5425	85 85	2750 3675	120 120	550 320	12000* 11500	37 48	580 410	4.7 3.4	4.0 2.8	5000 5000	940 560	7.9 4.7	*LIMITED - NO OXYGEN IN GLIDER.	
C-60A & (2)CG-4A	4700 7500	1000 3800	18500 18500	NONE NONE	644 644	150 150	6200 7000	85 85	4100 4500	120 120	250 200	8000 7300	40 41	360 330	2.8 2.9	2.5 2.4	5000 5000	510 475	4.6 4.0		


## 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 DO NOT BE SAME AS WITH CG-1A

## GLIDER CHARACTERISTICS

WEIGHT	GLIDER CHARACTERISTICS	SIZE
B - BASIC		S - SPAN
C - COMBAT		L - LENGTH
W - WAR MAX.		H - HEIGHT
B - (3700 to 4500)	<b>TYPICAL GLIDER CAPACITIES</b> (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 RIF.).	T - TREAD
C - 7500		W - WING AREA
W - 9000		S - 83'8"
		L - 48'4"
		H - 12'7"
		T - 9'4"
		W (incl. gear) 852 SQ. FT.

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TOWPLANE & GLIDER TACTICAL PLANNING PERFORMANCE CHART																					
FIGHTER TOWPLANE AND CG-4A GLIDER																					
TOWPLANE & GLIDER COMBINATION	LOADING						TAKE OFF <small>(WITH GLIDER ATTACHED) SL-HARD SURFACE-NO WIND</small>			CLIMB <small>(AT MINIMUM TOW SPEED)</small>				RANGE & ENDURANCE <small>MAXIMUM STATUTE AIR MILES-NO WIND-NO RESERVE</small>							REMARKS
	GLIDERS			TOWPLANE			MAX. TOW SPEED <small>(M.P.H.)</small>	TO CLEAR 50' OBJ. DISTANCE <small>(FT.)</small>	TAKE OFF SPEED I.A.S.	GROUND RUN DISTANCE <small>(FT.)</small>	I.A.S. FOR CLIMB <small>(M.P.H.)</small>	INITIAL RATE OF CLIMB <small>(FT./MIN.)</small>	SERVICE CEILING <small>(FT.)</small>	TIME TO SERVICE CEIL. <small>(MIN.)</small>	RADIUS OF ACTION <small>(GLIDER RELEASED AT RADIUS)</small>			RECOMM. CRUISING ALTITUDE <small>(FT.)</small>	MAX. RANGE <small>(WITH GLIDER)</small>		
	TAKE-OFF WEIGHT <small>(LB.)</small>	CARGO OR PASS. <small>(LB.)</small>	WEIGHT <small>(LB.)</small>	BOMBS CARGO OR PASS. <small>(LB.)</small>	FUEL <small>(U.S. GAL.)</small>	RADIUS <small>(MI.)</small>									TIME OUT <small>(HRS.)</small>	TIME BACK <small>(HRS.)</small>	RANGE <small>(MI.)</small>		ENDUR. <small>(HRS.)</small>		
	GLIDER WEIGHT <small>(LB.)</small>	GLIDER CARGO OR PASS. <small>(LB.)</small>	GLIDER WEIGHT <small>(LB.)</small>	GLIDER BOMBS CARGO OR PASS. <small>(LB.)</small>	GLIDER FUEL <small>(U.S. GAL.)</small>	GLIDER MAX. TOW SPEED <small>(M.P.H.)</small>	GLIDER TO CLEAR 50' OBJ. DISTANCE <small>(FT.)</small>	GLIDER TAKE OFF SPEED I.A.S.	GLIDER GROUND RUN DISTANCE <small>(FT.)</small>	GLIDER I.A.S. FOR CLIMB <small>(M.P.H.)</small>	GLIDER INITIAL RATE OF CLIMB <small>(FT./MIN.)</small>	GLIDER SERVICE CEILING <small>(FT.)</small>	GLIDER TIME TO SERVICE CEIL. <small>(MIN.)</small>	GLIDER RADIUS <small>(MI.)</small>	GLIDER TIME OUT <small>(HRS.)</small>	GLIDER TIME BACK <small>(HRS.)</small>	GLIDER RECOMM. CRUISING ALTITUDE <small>(FT.)</small>	GLIDER RANGE <small>(MI.)</small>	GLIDER ENDUR. <small>(HRS.)</small>		
P-38G & (1) CG-4A	7500	3800	15500	NONE	300	150	4000	100	3250	120	1000	12000*	15	270	2.2	1.6	5000	400	3.2	* LIMITED- NO OXYGEN IN GLIDER: SERVICE CEILING of 20000 ft. CAN BE REACHED IN 10 MINUTES IF OXYGEN IS INSTALLED 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 OI-1-113 dated 1 DEC. 1943.  
(2) ALL PERFORMANCE SHOWN WITH GLIDER TRAINING GEAR ATTACHED.

MINIMUM OF 200 LB. BALLAST IS REQUIRED IN NOSE OF P-38G WHEN NO AMMUNITION IS CARRIED.  
TOW PLANE PERFORMANCE WITH CG-4A TO BE SAME AS WITH CG-1A.

**GLIDER CHARACTERISTICS**

WEIGHT		SIZE
B-BASIC		S- SPAN
C-COMBAT		L- LENGTH
W-WAR MAX.	H- HEIGHT	T- TREAD
		W- WING AREA
B- (3700 to 11500)	<b>TYPICAL GLIDER CAPACITIES</b>	S- 83'8"
C- 7500	(a) TROOP CARRIER: CREW(2) & TROOPS(13).	L- 148'4"
W- 9000	(b) CARGO CARRIER: CREW(2) & TROOPS(4) & JUMP CAR(1).	H- 12'7"
	(c) CARGO CARRIER: CREW(2) & TROOPS(3) & 75MM. HOWITZER(1) & 75MM. AMMUNITION(16 RIG.)	T- 9'4"
		W- (Tact. gear) 852 Sq. Ft.

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## TOWPLANE &amp; GLIDER TACTICAL PLANNING PERFORMANCE CHART

PAGE 1,9  
AS OF:  
21 OCT., 1944

## CARGO TOWPLANE AND CG-13A GLIDER

TOWPLANE & GLIDER COMBINATION	LOADING					TAKE OFF (WITH GLIDER ATTACHED) S.L.-HARD SURFACE-NO WIND			CLIMB (AT MINIMUM TOW SPEED)				RANGE & ENDURANCE MAXIMUM 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 I.A.S. (FT.)	GROUND RUN DISTANCE (FT.)	I.A.S. FOR CLIMB (M.P.H.)	INITIAL RATE OF CLIMB (FT./MIN.)	SERVICE CEILING (FT.)	TIME TO SERVICE 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.)									RADIUS (MI.)	TIME OUT (HRS.)	TIME BACK (HRS.)		RANGE (MI.)		ENDUR. (HRS.)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		19
C-47, 47A & 53 PADDLE BLADE PROPS & (1) CG-13A	10000 15700 17700	1300 7000 9000	24200 24200 24200	1200 1200 1200	80L 80L 80L	195 195 195	4600 5700 6350	85 90 90	3000 3600 3850	105 105 105	460 300 245	12000* 9500 8500	36 41 45	555 485 460	4.8 4.2 4.0	3.6 3.1 3.0	2000 2000 2000	855 725 675	7.5 6.3 6.0	* LIMITED - NO OXYGEN IN GLIDER.
C-60A & (1) CG-13A	9500	800	18000	NONE	64L	-	3000	85	3350	120	400	12000*	39	420	3.3	2.7	5000	590	4.4	* LIMITED - NO OXYGEN IN GLIDER.

## NOTES:

- (1) REFERENCE MATERIAL FROM TECHNICAL ORDER 01-1-143 dated JULY 1944.  
 (2) ALL PERFORMANCE SHOWN WITH GLIDER TRAINING GEAR ATTACHED.  
 ATTENTION: WEIGHT OF GLIDER MAY BE LIMITED BY TOWPLANE PERFORMANCE; SEE T.O. 01-1-143 JULY 1944 FOR ALLOWABLE GLIDER WEIGHT WITH CORRESPONDING TOWPLANE.

## (A) TYPICAL GLIDER CONDITIONS

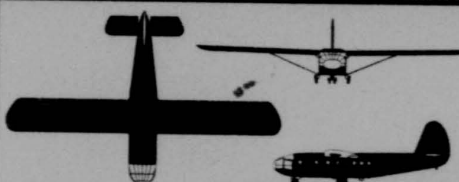
- (a) JEEPS (2) & TROOPS (8) & CREW (2)  
 (b) JEEP (1) & TROOPS (8) & CREW (2) & 75mm. HOWITZER (1) & AMMUNITION (156 RDS.)  
 (c) TROOPS (8) & CREW (2) & 75mm. HOWITZER (2) & AMMUNITION (165 RDS.)  
 (d) TROOPS (8) & CREW (2) & STD. 105mm. HOWITZER (1) (M-2) & AMMUNITION (65 RDS.)  
 (e) TROOPS (40) & CREW (2) & AERIAL DELIVERY CONTAINERS (4)  
 (f) WEAPONS CARRIER, 6x6, 1 1/2 TON (1) & CREW (2)  
 (g) JEEP (1) & TROOPS (6) & CREW (2) & 105mm. HOWITZER (1) & AMMUNITION (27 RDS.)

## GLIDER CHARACTERISTICS

## WEIGHT

B- BASIC  
 C- COMBAT  
 W- WAR MAX.

B- 8700  
 C- 18900  
 W- 18900



## SIZE

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

## TYPICAL GLIDER CAPACITIES

SEE NOTE "A" AT LEFT

S- 85' 7"  
 L- 54' 3"  
 H- 20' 3"  
 T- 9' 11"  
 W- 873 SQ. FT.

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