

AIRPLANE CHARACTERISTICS & PERFORMANCE

BUREAU OF AERONAUTICS, NAVY DEPT.

COLUMN NUMBER		1	2		
LOADING CONDITION		INTERCEPTOR FIGHTER	INTERCEPTOR FIGHTER		
GROSS WEIGHT	LBS.	16140	16140		
EMPTY WEIGHT	LBS.				
FUEL / ONE	GALS.	582	582		
FIXED GUNS/AMMUNITION		4-20MM/800 Rds. - MK-7 FIRE CONTROL			
FLEXIBLE GUNS/AMMUNITION		NONE			
ENGINE POWER USED FOR PERFORMANCE		MILITARY THRUST AFTERBURNING	MILITARY THRUST		
WING LOADING	LBS/SQ.FT.	23.0	23.0		
POWER LOADING ①	LBS./BHP.				
V-MAX. SEA LEVEL	KN	614	550		
V-MAX.	KN./FT.	547	519		
V-STALL GROSS WEIGHT ②	KN.	92.2	92.2		
V-STALL. WITHOUT FUEL ② 1/4 FUEL	KN.	84.3	84.3		
TIME-TO-CLIMB -10000FT-	MIN.				
TIME-TO-CLIMB -40000FT-	MIN.	3.0			
SERVICE CEILING	FT.				
TAKE-OFF DISTANCE -CALM-	FT.				
TAKE-OFF DISTANCE -15 KN-	FT.				
TAKE-OFF DISTANCE -25 KN-	FT.				
TAKE-OFF DISTANCE -50 FT. OBST.	FT.				
TAKE-OFF TIME	SECONDS				
RATE OF CLIMB -SL-	FT./MIN.	21630			
MAX. RANGE / V-AV. ③	N MI/KN.				
RANGE / V-AV. -60% NSP-③-	N MI/KN.				
SEARCH RADIUS / V-AV. -20% R-	N MI/KN.				
A.S.W. RADIUS / V-AV. -20% R-	N MI/KN.				
*MAX. ENDURANCE-40000 FT.	MIN.		60		
**END. AT MIL. POWER VMAX-40000 FT.	MIN.		28.6		
ENGINE / PROP. GEAR RATIO		2 Westinghouse 24C - Turbo-Jet Engines			
ENGINE RATING BHP/RPM/ALT.	TAKE-OFF & MILITARY	NORMAL			
	3000# Static Thrust/12500 RPM/s.l.	2290# Static Thrust/11500 RPM/s.l.			
	WITH AFTERBURNING				
	4750# Static Thrust/12500 RPM/s.l.				
TANKAGE IN GALLONS		OIL	FUEL	ARMAMENT - NONE	
AUX. FIXED	PROTECTED		582		
	UNPROTECTED				
	TOTAL - FIXED INTERNAL		582		
	DROPPABLE				
	DROPPABLE				
TOTAL			582		
NOTE	① BHP AT MAX. CRIT. ALT.				
	② STALL - WITHOUT POWER				
	③ AT ALTITUDE				

Performance and endurance are contractor estimates.

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***MAX. ENDURANCE:**

Allowance is made for warm up, take-off, climb and reserve. Afterburning is not used at any time.

Specific fuel consumption is increased 7.5%.

****ENDURANCE AT MILITARY POWER VMAX:**

Allowance is made for warm up, take-off, and climb with afterburning, and reserve. Specific fuel

consumption is increased 7.5%.

DESCRIPTION

The Douglas D-571 is a carrier-based, very-high-speed interceptor airplane having a delta wing planform. Power is provided by two 24C turbo-jet engines with afterburning. The afterburning is used for climb rather than for high speed. Notable features of this airplane are its tailless configuration, long wing chord which leads to a sizable wing depth even though the thickness ratio is very small, relatively low wing loading and aspect ratio, and high critical Mach Number presently estimated to be above .95. The cabin will be pressurized and a jettisonable nose section will be incorporated. Speed brakes and power-boost controls are to be installed. This design provides a large amount of usable space for carrying fuel, guns, etc., in the wing. Armament will probably be 4-20 MM guns, though space is available for alternate armament, e.g., spin stabilized rockets.

The present contract calls for only a preliminary investigation and engineering development up to and including the mock-up. Configuration will be very flexible until mock-up which is tentatively scheduled for June 1948.

Design Gross Weight	16140#
Crew	One
Length	38'-3"
Height	13'-1"
Span	37'-6"
Wing Area	701 Sq. Ft.

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NAVY DEPARTMENT

WING AREA - 701.2 SQ. FT.
WING SECTION -
ROOT - NACA 0012 MOD.
TIP - NACA 0012 MOD.
M.A.C. - 245

