



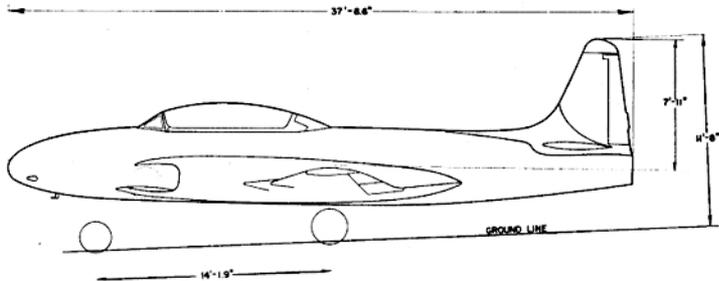
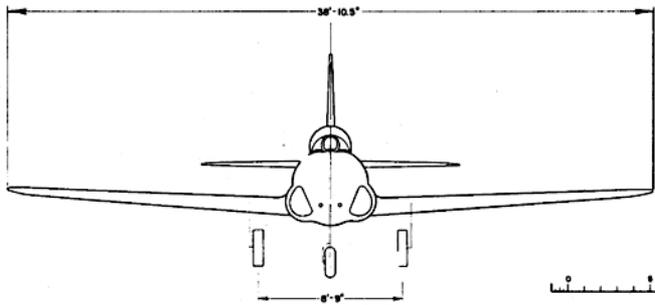
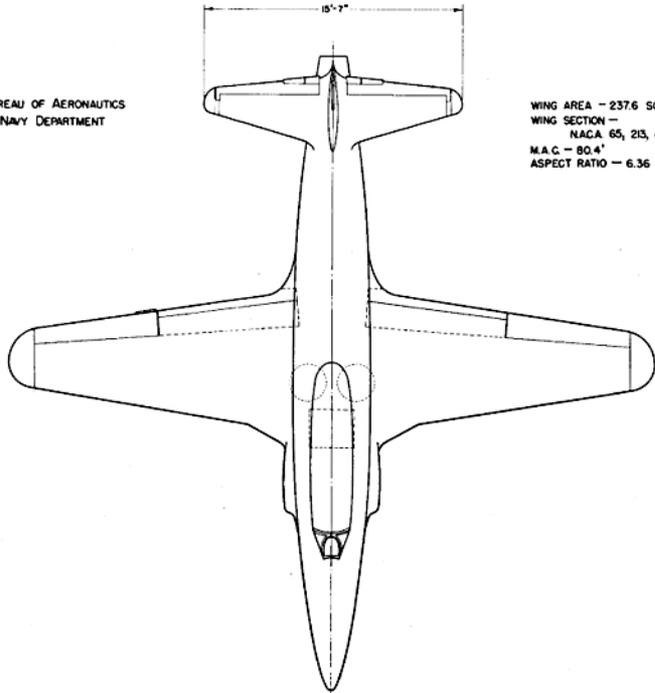
STANDARD AIRCRAFT CHARACTERISTICS
 T0-2 "SHOOTING STAR"

LOCKHEED

Standard Aircraft: Characteristics NAVAER 1335A (REV. 1-49)

BUREAU OF AERONAUTICS
NAVY DEPARTMENT

WING AREA - 237.6 SQ. FT.
WING SECTION -
NACA 65, 215, α = 5
M.A.C. - 80.4"
ASPECT RATIO - 6.36



MISSION AND DESCRIPTION

The primary mission of the TO-2 is the transition and training of pilots for jet type fighter aircraft and as an instrument trainer for pilots of jet type fighter aircraft.

This airplane incorporates aileron control hydraulic boost mechanism and provisions for carrying droppable fuel tanks or bombs on wing tips. Power augmentation is provided by a 50 gallon water/alcohol system.

Cockpit has heating, cooling and pressurization system and "G" suit provisions. Two hydraulically operated dive recovery flaps and provisions for two jettisonable 1,000# JATO units are incorporated in the bottom of the fuselage. Gyroscopic instruments are electrically operated. Gasoline (AN-F-48) must be used for all startings and purging prior to shut-offs below temperatures of -17°C (0°F). TO-2 aircraft will accommodate either kerosene or gasoline for in-flight operation. Gasoline to be used for all starting.

DIMENSIONS

WING AREA.....238 sq. ft.
SPAN.....38' - 11"
LENGTH.....37' - 8"
HEIGHT.....11' - 8"
TREAD.....8' - 9"
M.A.C.....6' - 8"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY.....	8,084.....	
BASIC.....	8,948.....	
DESIGN.....	12,200.....	7.33
COMBAT.....	11,965.....	
MAX.T.O.....	14,842.....	
MAX.LAND.....	14,842.....	

All weights are estimated.

FUEL AND OIL

Gal.	No. Tanks	Location
95	1	Fuse., S.S.
258	4	Wings, S.S.
330	2	Wings, Drop

FUEL GRADE.....JP-1
FUEL SPEC.....AN-F-32

OIL

CAPACITY (Gals.).....3
GRADE.....1010
SPEC.....AN-O-9

ELECTRONICS

VHF.....AN/ARC-3
MARKER BEACON.....BC-1333
MF RADIO COMPASS.....AN/ARN-6
IFF.....SCR-695A

POWER PLANT

NO. & MODEL.....(1) J33-A-35
MFR.....Allison
ENG. LENGTH.....107"
ENG. DIA.....51"

RATINGS

	Lbs. @	Rpm @	Alt.
T. O. (wet)	5,400	11,750	S.S.L.
MIL.	4,600	11,750	S.S.L.
NORM.	3,900	11,250	S.S.L.
SPEC. NO. 258-D			

ORDNANCEGUNS

No.	Size	Location	Rds.
2	.50 cal.	Nose	600

BOMBS & ROCKETS

Type	Size	Location	No.
Bomb	100#	Wing Tip	2
Bomb	250#	Wing Tip	2
Bomb	500#	Wing Tip	2
Bomb	1,000#	Wing Tip	2

FIRE CONTROL

Gun Sight.....K-14B

MAX. BOMB CAP.....2,000 lbs.



PERFORMANCE SUMMARY				
LOADING CONDITION		(1) TRAINER 2x165 Gal.Tank		
TAKE-OFF WEIGHT	lbs.	14,442		
Fuel (Fixed/Drop)	lbs.	2,365/2,211		
Bombs	lbs.	—		
Wing/Power Loading (A) lbs/sq.ft; lbs/bhp.		60.8/-		
Stall Speed--Power off	kn.	102.0		
Stall Speed--Power off - No Fuel	kn.	84.4		
Stall Speed--Power on	kn.	100.0		
Maximum Speed/Alt (B)	kn/ft.	408/25,000		
Take-off Distance, deck -- calm	ft.	2,670(1,760)		
Take-off Distance, deck	kn. ft.	—		
Take-off Distance, Airport	ft.	3,820(2,720)		
Rate of climb -- sea level (B)	ft/min.	2,700		
Service Ceiling	(B) ft.	37,000		
Time-to-climb 20,000 ft.	(B) min.	10.4		
Time-to-climb 30,000 ft.	(B) min.	21.5		
Combat Range/V av (Climb)	ft. n.mi/kn.	1,080/381		
Combat Radius/V av	ft. n.mi/kn.	—		
LOADING CONDITION		(2) TRAINER	(3) TRAINER	(4) TRAINER
GROSS WEIGHT	lbs.	11,965	11,965	11,965
Engine power		Military (wet)	Military (dry)	Normal
Fuel	lbs.	2,365	2,365	2,365
Bombs/Tanks		None	None	None
Max. speed at sea level	kn.	499	462	430
Max. speed/Alt	kn/ft.	504/7,000	476/14,000	444/22,000
Combat speed/Alt	kn/ft.	See Notes	440/35,000	432/35,000
Rate of climb SL	ft/min.	7,350	4,800	3,410
Ceiling for 500 fpm R/C	ft.	See Notes	42,500	38,000
Time-to-climb/Alt.	min/ft.	—	—	—

NOTES

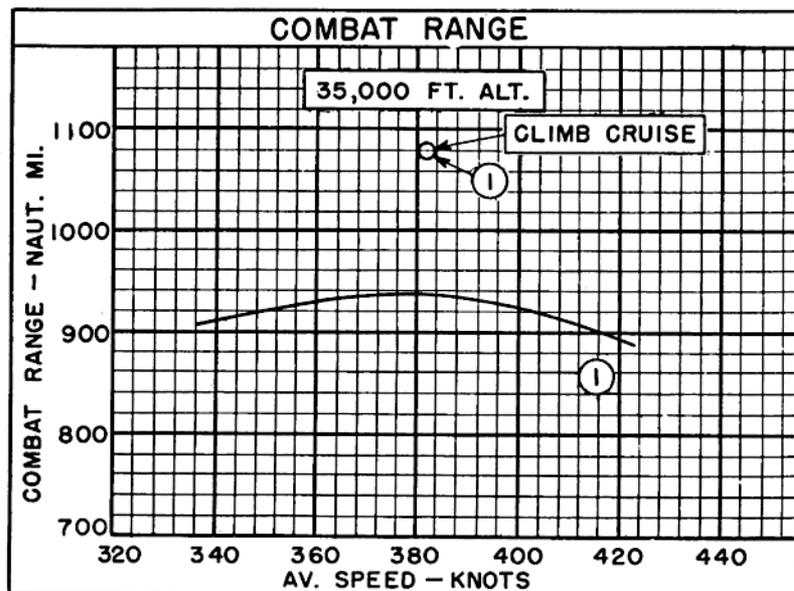
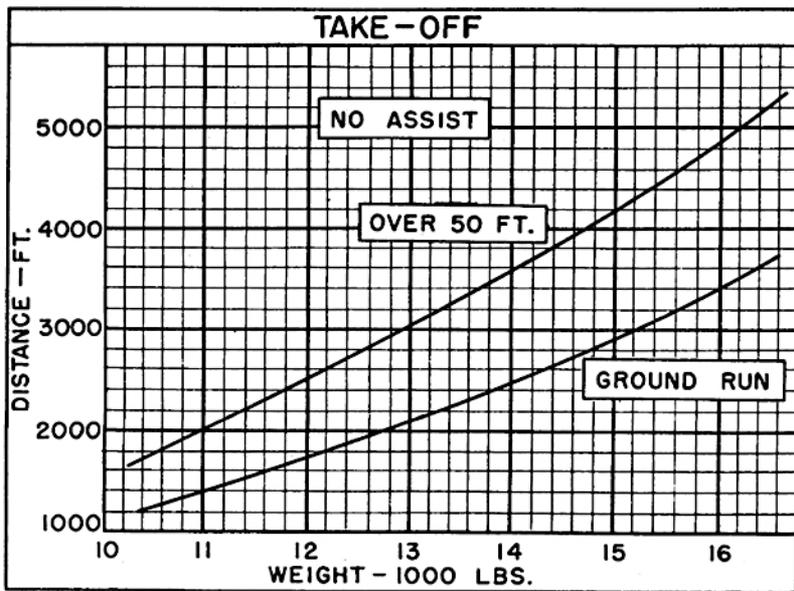
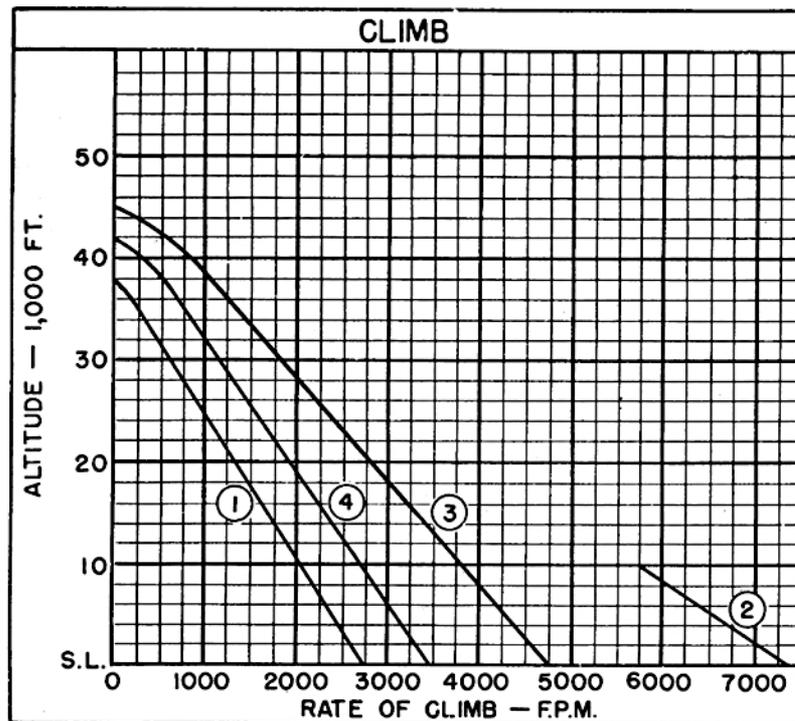
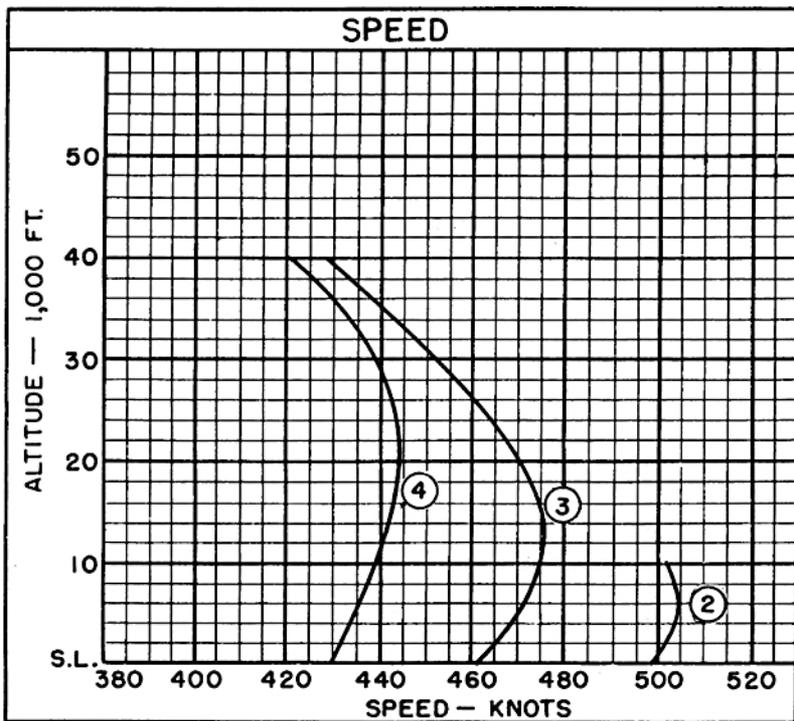
- (A) BHP at Maximum Critical Altitude
(B) Normal BHP

DECLASSIFIED

Performance is based on flight test of F-80C. Range and radius are based on flight test fuel consumption increased by 5%.

Performance is based on the use of JP-1 fuel with an assumed weight of 6.7 lb./gal.

Take-off is with water injection. Figures in parentheses are with water injection and two 12 AS-1000 D4 Aerojet JATO units, each producing 1,000 lb. thrust for 12 sec. Weight of JATO units is 200 lbs. each.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics, NAVAR 1335E (REV. 1-49)

NOTES

Water injection not used above 10000 feet in climb because of danger of flame-out.

Altitude at start of cruise -- 38,000 feet. Altitude at end of cruise -- 42,000 feet.
