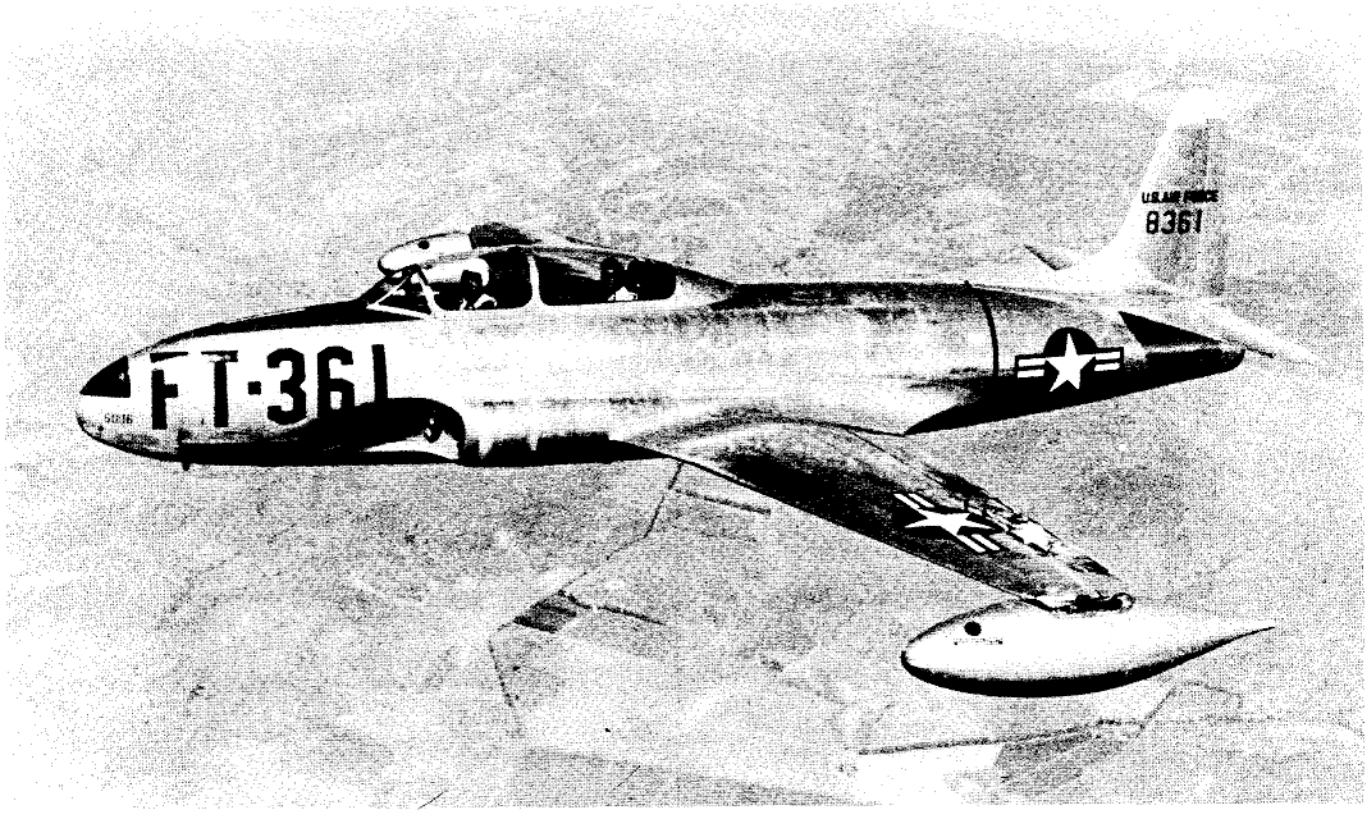

STANDARD AIRCRAFT CHARACTERISTICS

TV-2 "SHOOTING STAR"

LOCKHEED

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

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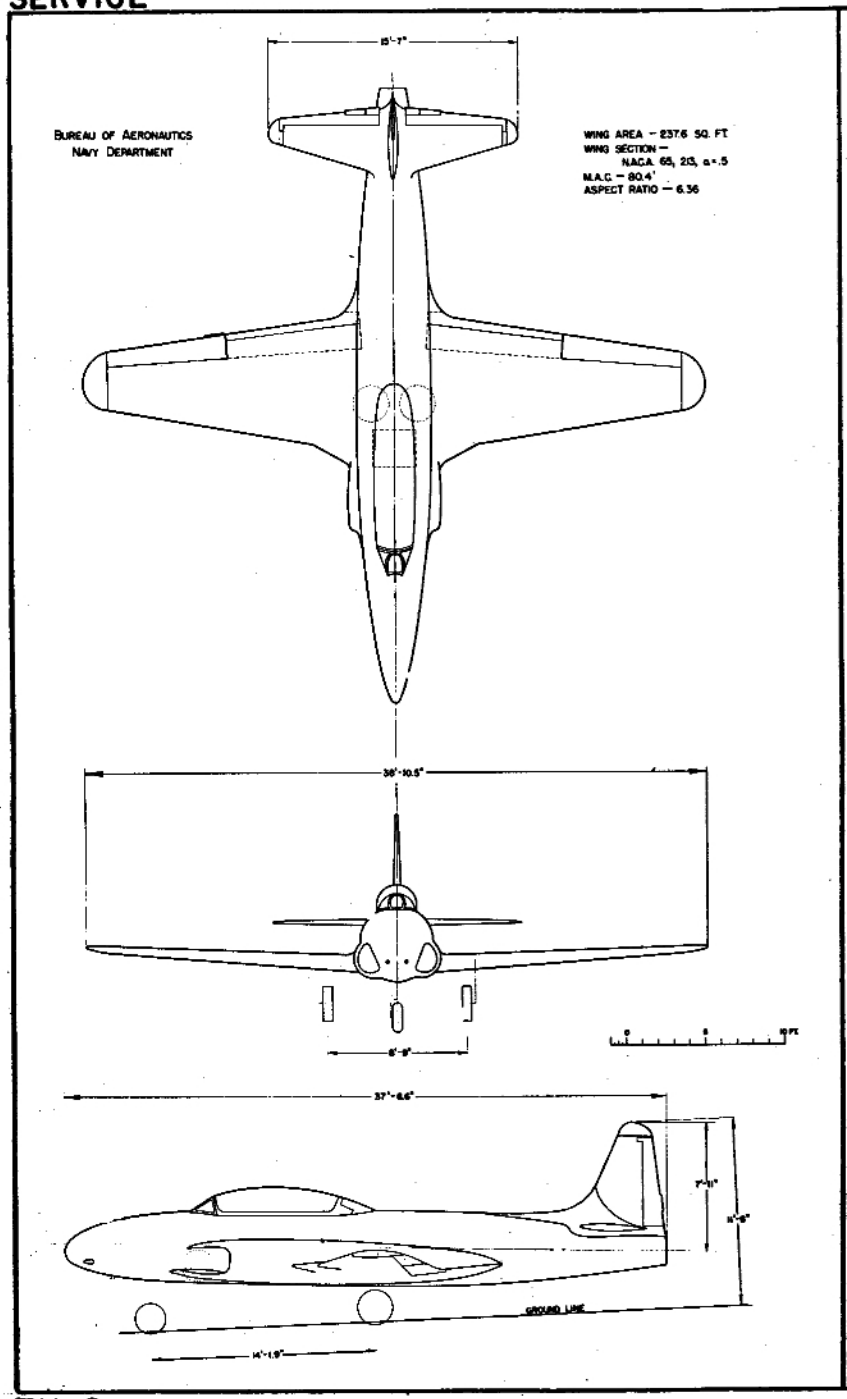

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MISSION AND DESCRIPTION

The primary mission of the TV-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

ORDNANCE

GUNS

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.

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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

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.

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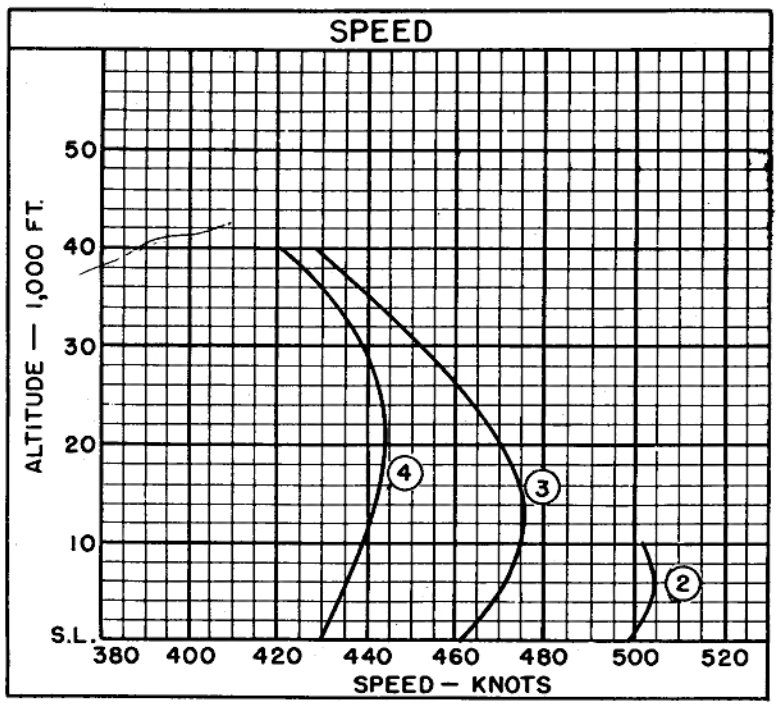

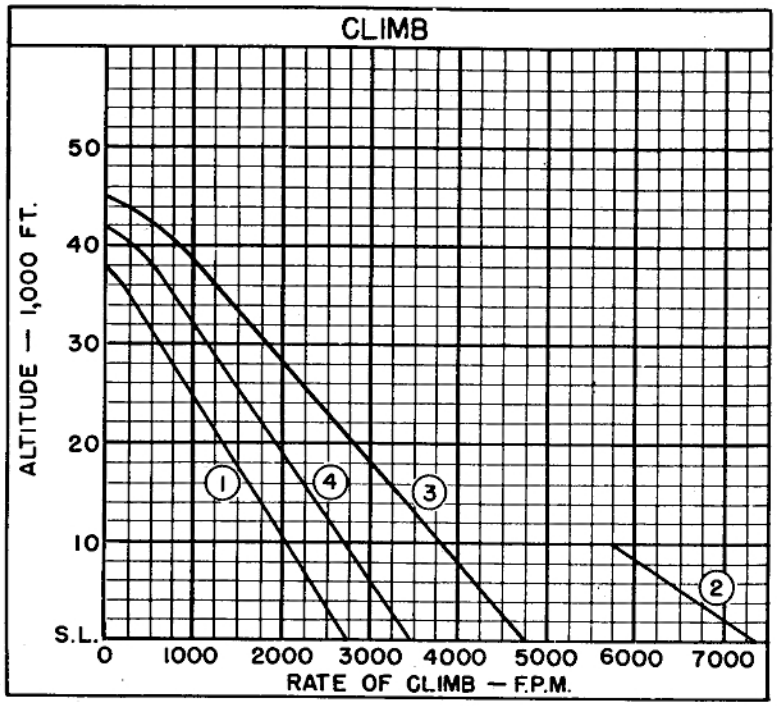

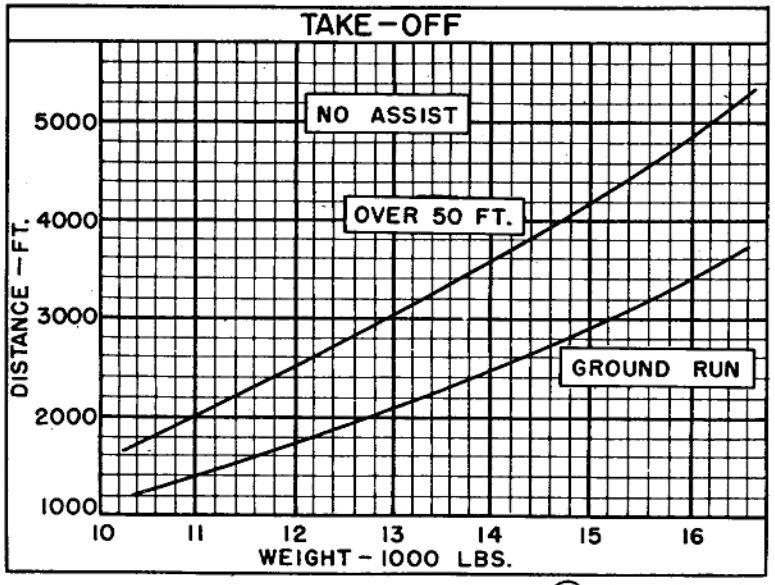

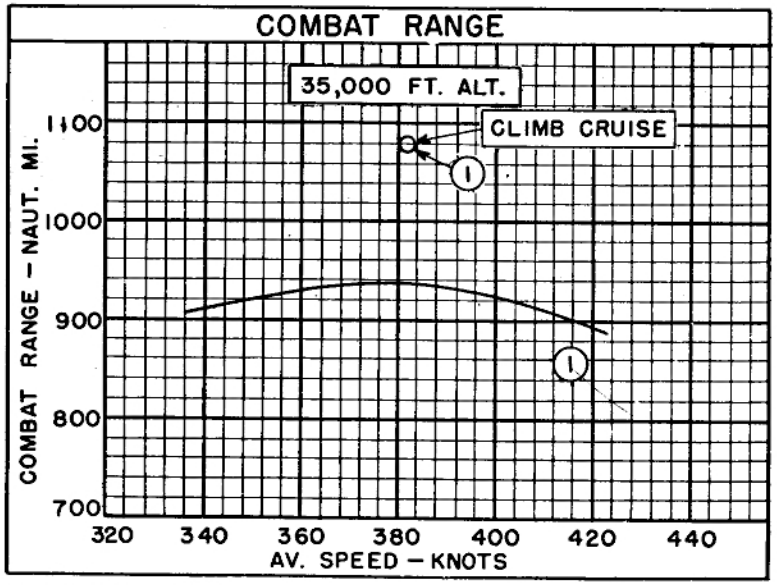

◯ LOADING CONDITION COLUMN NUMBER

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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.

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

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