

Lockheed P-38M Lightning

A/C Type: Long-range Twin engine fighter
 Engine(s): Two Allison V-1710-111/113 inline
 Eng. Pwr: 2950-32000 hp, liquid-cooled
 A/C Crew: Pilot, radar operator

Maximum Speed: 406 mph at 15,000 ft
 Maximum Ceiling: 39,000 ft.

Defense factor: 5 Size Modifier: +0
 Damage Factor: 13/20 Endurance: 165
 Cockpit View: Fair Blind Area: Rear, Low

Protection: Cockpit +2 Fuel +2 Engine +0

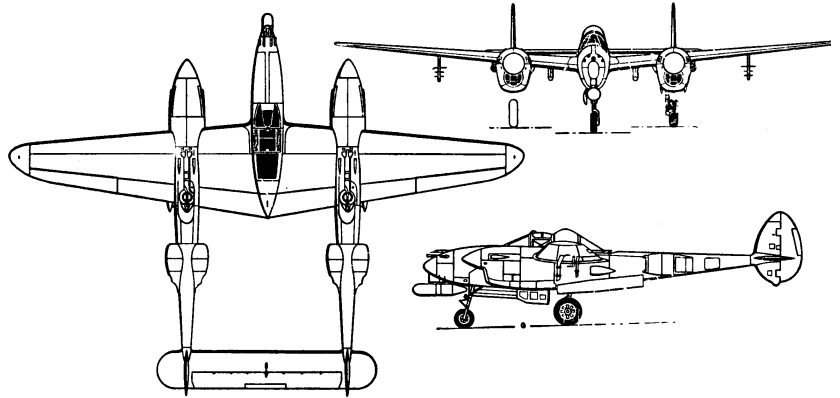
Climb Decel/ Dive Accel: 3.0 / 1.0

Weight and Load Limit: none

<u>Wpn Stations</u>	<u>Weight</u>	<u>Allowed Loads</u>
1, 2		125-gal FTs

Country: USA

Service Entry Date: July, 1945



Class: F

Victory Points: 7-13

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(5)	Min HT(6)	Min BT(7)	Min ET(8)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	3.5	7.0	9.5	5.0	7.0	8.5	10.0	37-42	EH	600
31-36	VH	3.0	7.5	10.0	4.5	6.0	7.5	8.5	31-36	VH	1,200
25-30	HI	3.0	8.0	10.0	4.0	5.5	6.5	7.5	25-30	HI	1,600
19-24	MH	2.5	8.0	10.5	3.5	5.0	6.0	7.0	19-24	MH	2,000
13-18	ML	2.5	8.0	10.0	3.0	4.5	5.5	6.5	13-18	ML	2,300
7-12	LO	2.0	7.5	10.0	3.0	4.0	5.0	6.0	7-12	LO	2,700
1-6	VL	2.0	7.0	9.5	2.5	3.0	4.5	6.0	1-6	VL	3,000

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	One 20mm Hisp. Sz. M1	5	2
N2	Two .50 cal M2 mg	18	3
N3	Two .50 cal M2 mg	18	3

GUN ATTACK FACTORS

Range	N1	N2	N3	Total
0	22	18	18	58
1	16	13	13	42
2	11	9	9	29
3	7	6	6	19
4	5	4	4	13
5	4	3	3	10
6	3	2	2	7
7	--	--	--	--

WEAPON STATION LOCATION

1 2

POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	1/-	0.5/-	--	--	EH
31-36	VH	2/-	1/-	--	--	VH
25-30	HI	2.5/3.5	1.5/2.0	0.5/1.0	--	HI
19-24	MH	3/4	2.0/2.5	1.0/1.5	--	MH
13-18	ML	3.5/4.5	2.5/3.0	1.5/2.0	--	ML
7-12	LO	3.5/4.5	2.5/3.0	--	--	LO
1-6	VL	3.5/4.5	2.5/3.0	--	--	VL
Banking FPs		2	3	4	6	
Side Slip FPs		3	5	6	8	

NOTES AND VARIANTS

P-38M Nightfighter: Available July 1945. Tempermental engines +2 for A/C malfunction rolls; -1 to Eng critical rolls at MH+. Effective night fighter (35 mph faster than a P-61 Black Widow and better at high altitude), but little work available at the end of the war in the Pacific. 75 modified from P-38L.

125-gal FTs: Wgt: 1000 lb Ld: 4.5/3.5 End: +120 each

Douglas P-70A Nighthawk

A/C Type: Long-range fighter bomber
 Engine(s): 2 P&W R-1830-S3C4G Twin Wasp
 Eng. Pwr: 2800-3200 hp, air-cooled
 A/C Crew: Pilot, radar operator, gunner

Maximum Speed: 329 mph at 4,000 ft
 Maximum Ceiling: 28,500 ft.

Defense factor: 6 Size Modifier: +0
 Damage Factor: 15/23 Endurance: 250
 Cockpit View: Fair Blind Area: Rear, Low

Protection: Cockpit +0 Fuel +1 Engine +0

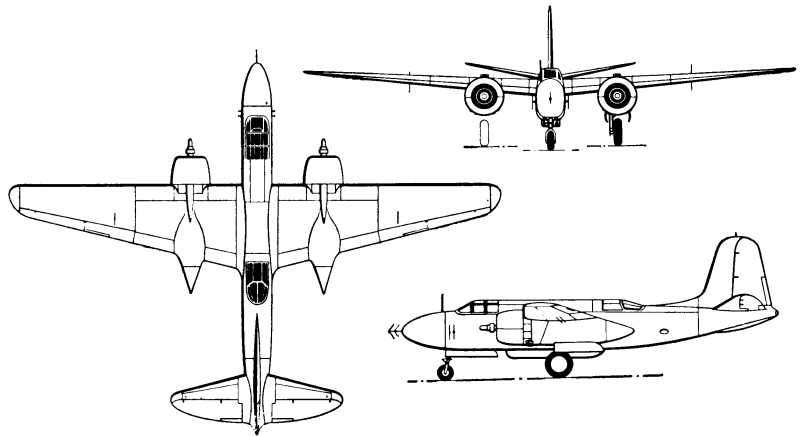
Climb Dece/ Dive Accel: 3.0 / 1.0

Weight and Load Limit: 3,200 / 3-12

Wpn Stations Weight Allowed Loads

Country: USA

Service Entry Date: November 1942



Class: F

Victory Points: 7-13

AIRCRAFT PERFORMANCE CHART

Altitude		Minimum	Maximum	Maximum	Min	Min	Min	Min	Altitude		Average
Levels	Bands	Speed	Speed	Dive Spd	TT(4)	HT(5)	BT(6)	ET(7)	Levels	Bands	Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	--	--	--	--	--	--	--	37-42	EH	--
31-36	VH	--	--	--	--	--	--	--	31-36	VH	--
25-30	HI	3.0	6.0	9.5	4.0	6.0	7.0	8.5	25-30	HI	300
19-24	MH	2.5	6.0	9.5	3.5	5.5	6.5	8.0	19-24	MH	600
13-18	ML	2.5	6.0	9.0	3.5	5.0	6.0	7.5	13-18	ML	1,000
7-12	LO	2.0	6.5	9.0	3.0	4.5	5.0	6.5	7-12	LO	1,400
1-6	VL	2.0	6.5	8.5	3.0	4.0	4.5	5.5	1-6	VL	1,600

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	Two 20mm Hisp. Suiza	2	2
N2	Two 20mm Hisp. Suiza	2	2
N3	Two .50 cal M2 mg	9	3
N4	Two .50 cal M2 mg	9	3
N5	Two .50 cal M2 mg	9	3

GUN ATTACK FACTORS

Range	N1	N2	N3	N4	N5	Total
0	44	44	18	18	18	88/54
1	32	32	13	13	13	64/39
2	22	22	9	9	9	44/27
3	14	14	6	6	6	28/18
4	10	10	4	4	4	20/12
5	8	8	3	3	3	16/9
6	6	6	2	2	2	12/6
7	--	--	--	--	--	--

WEAPON STATION LOCATION



POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	--	--	--	--	EH
31-36	VH	--	--	--	--	VH
25-30	HI	1.0 (2.0)	0.5 (1.0)	--	--	HI
19-24	MH	2.0 (3.0)	1.0 (1.5)	--	--	MH
13-18	ML	2.5 (3.5)	1.5 (2.0)	--	--	ML
7-12	LO	3.0 (3.5)	2.0 (2.0)	--	--	LO
1-6	VL	3.0 (3.5)	2.0 (2.0)	--	--	VL
Banking FPs		3	4	5	7	
Side Slip FPs		3	4	6	8	

NOTES AND VARIANTS

P-70 Nighthawks: Long-range fighter version of the A-20 Havoc bomber. Mostly used to train US night fighter crews while the P-61 in development. P-70 had unsupercharged Wright R-2600-11 1600-hp radial engines: -0.5 acc below MH; -1 (min 0.5) above ML. 60 built.

P-70A: Avail Nov-42. Based on the A-20A. AI Mk IV radar (SCR.520). Saw a little operational use in the Pacific in 1943-44. Posted to North Africa, but traded in for P-61s before any active service.

P-70A-1: Avail July 43. Based on A-20C w/better engines: +100 roc, acc in parens. Prot: Cockpit +2 Fuel +2. Armed with N3, N4, N5 only (total to right) and AI Mk IV radar (SCR.520). 39 built

P-70A-2: Avail late 43. Based on A-20G. Engine & arms per P70A-1. 65 built

P-70B-2: Avail 44. Based on A-20G and J. 105 built. Not used operationally.

Grumman F7F-3N Tigercat

A/C Type: Night Fighter
 Engine(s): Two P&W R-2800-34W radial
 Eng. Pwr: 4200 hp, air-cooled
 A/C Crew: Pilot, radar operator

Maximum Speed: 435 mph @22,200 ft
 Maximum Ceiling: 40,700 ft.

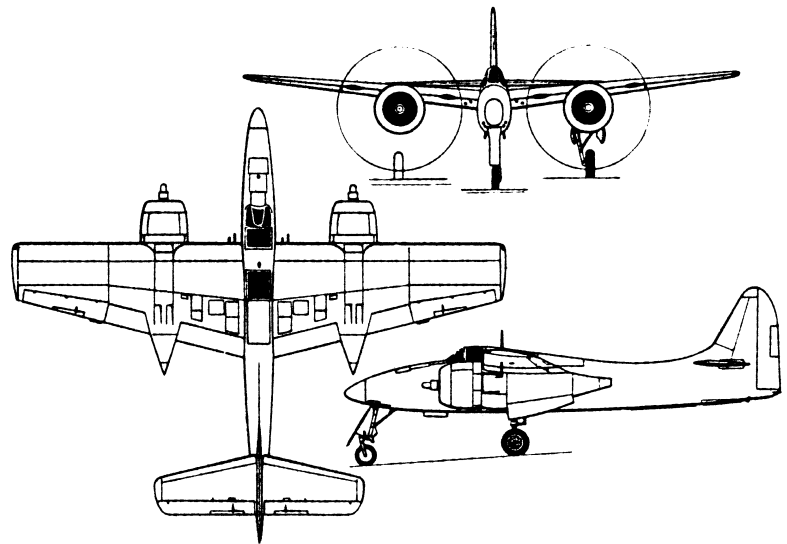
Defense factor: 5 Size Modifier: +0
 Damage Factor: 16/24 Endurance: 148
 Cockpit View: Poor Blind Area: Rear

Protection: Cockpit +2 Fuel +2 Engine +0
 Climb Dece/ Dive Accel: 3.0 / 1.0
 Weight and Load Limit: 440 / 2-5

Wpn Stations	Weight	Allowed Loads
1, 5	600	4x 5-in HVAR
2, 4	1100	1x bomb, mine, FT, or depthbomb
3	2000	1 bomb, mine, torp, FT, or depthbomb

Country: US Navy

Service Entry Date: June 1946



Class: F

Victory Points: 4-7

AIRCRAFT PERFORMANCE CHART

Altitude Levels	Bands	Minimum Speed	Maximum Speed	Maximum Dive Spd	Min TT(4)	Min HT(5)	Min BT(6)	Min ET(7)	Altitude Levels	Bands	Average Rate of Climb
43+	UH	--	--	--	--	--	--	--	43+	UH	--
37-42	EH	3.5	7.0	11.0	6.0	7.5	8.5	10.0	37-42	EH	400
31-36	VH	3.5	7.5	11.0	5.5	7.0	8.0	9.0	31-36	VH	1,000
25-30	HI	3.0	8.0	11.0	5.0	6.5	7.5	8.5	25-30	HI	1,500
19-24	MH	3.0	8.5	11.0	4.5	6.0	7.0	8.0	19-24	MH	2,200
13-18	ML	2.5	8.0	11.0	4.5	5.5	6.5	7.5	13-18	ML	2,700
7-12	LO	2.5	7.5	10.5	4.0	5.0	6.0	7.0	7-12	LO	3,300
1-6	VL	2.0	7.0	10.0	4.0	5.0	6.0	7.0	1-6	VL	3,900

FIRE POWER CHART

Guns	Type Weapons	Ammo	Criticals
N1	Two 20mm cannon	7	2
N2	Two 20mm cannon	7	2
N3	Two .50 cal 53-2 mg	9	3
N4	Two .50 cal 53-2 mg	9	3

GUN ATTACK FACTORS

Rng	N1	N2	N3	N4	Total
0	44	44	18	18	88/124
1	32	32	13	13	64/90
2	22	22	9	9	44/62
3	14	14	6	6	28/40
4	10	10	4	4	20/28
5	8	8	3	3	16/22
6	6	6	2	2	12/16
7	--	--	--	--	--

WEAPON STATION LOCATION



POWER VERSUS SPEED CHART

(per engine)

Levels	Bands	1.0 - 4.5	5.0 - 7.5	8.0 - 9.5	10.0+	Band
43+	UH	--	--	--	--	UH
37-42	EH	1.5/2.0	0.5/1.0	--	--	EH
31-36	VH	2.5/3.0	1.5/2.5	--	--	VH
25-30	HI	3.0/4.0	2.0/2.5	1.0/1.5	--	HI
19-24	MH	3.5/4.5	2.5/3.0	1.5/2.0	--	MH
13-18	ML	3.5/4.5	2.5/3.0	1.5/2.0	--	ML
7-12	LO	3.5/4.5	2.5/3.0	--	--	LO
1-6	VL	3.5/4.5	2.5/3.0	--	--	VL
Banking FPs		3	4	6	8	
Side Slip FPs		4	5	7	9	

NOTES AND VARIANTS

F7F Tigercats: Twin-engine carrier-borne fighters designed for Midway-class carriers (not anything smaller). Most finished as two-seat nightfighters. Available but not operational by end of Pacific War. Post-war, these became Marine equipment. Loses control surface use at Min speed +1.0: won't stall, but cannot turn or transition.

F7F-2N: Available March 1945. Weaker engine: -0.5 Mil power. N1/N2 only. AN/APS-4 radar in nose. 34 built.

F7F-3: Available late 1945. 189 built.

F7F-3N: Available March 46. Served in Korea with Marine air units. N1/N2 only. AN/APS-6 radar. 60 built.

FT 150 gal Wgt: 1100 lbs. Ld: 5.0/3.0 End: +30 each
FT 300 gal Wgt: 2200 lbs. Ld: 7.5/5.5 End: +60