

STANDARD AIRCRAFT CHARACTERISTICS

SP-5B MARLIN

MARTIN

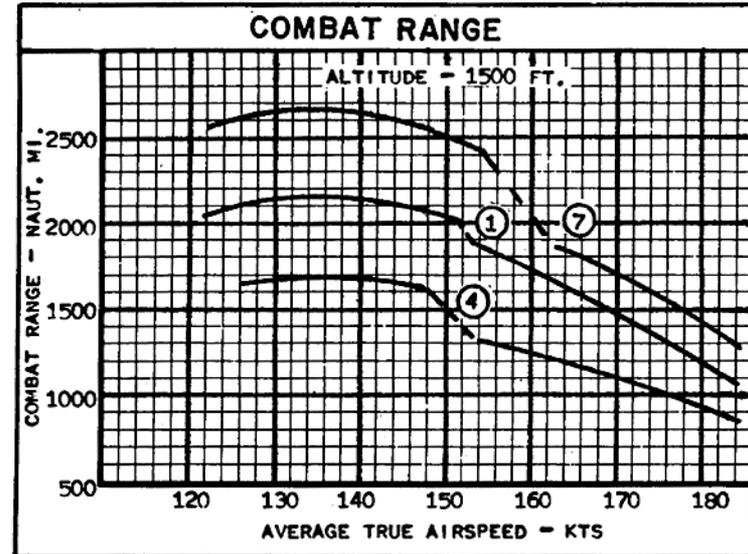
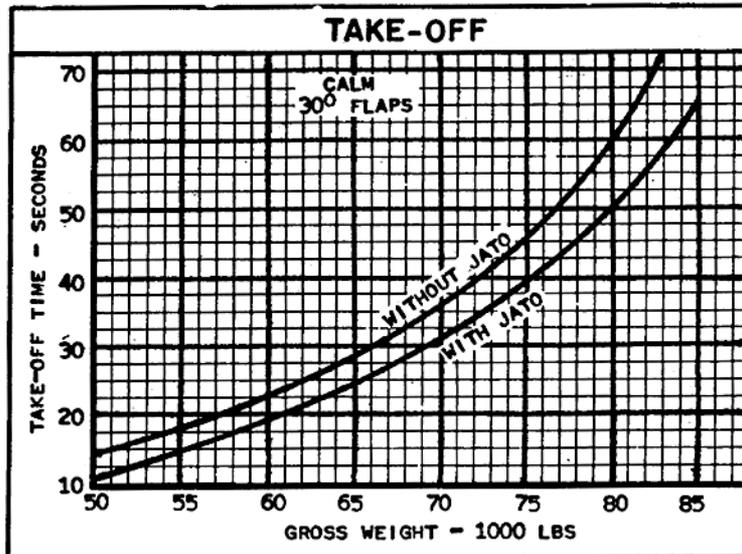
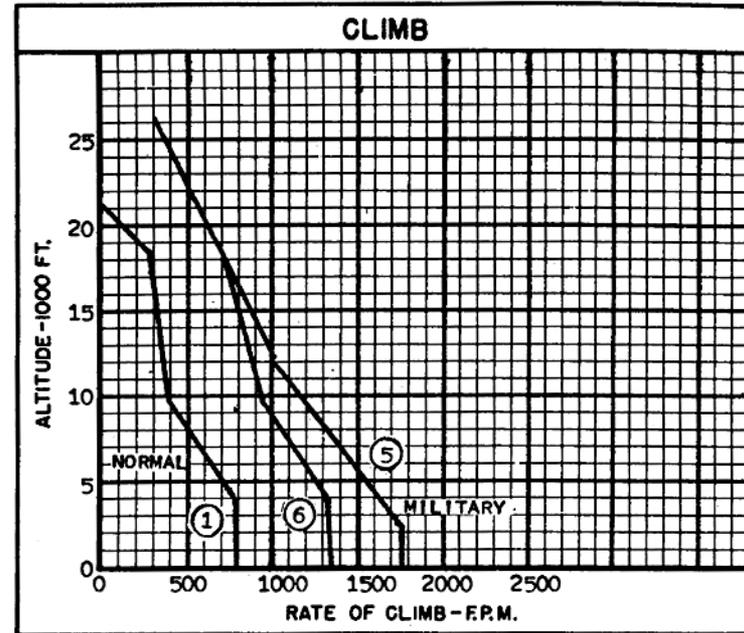
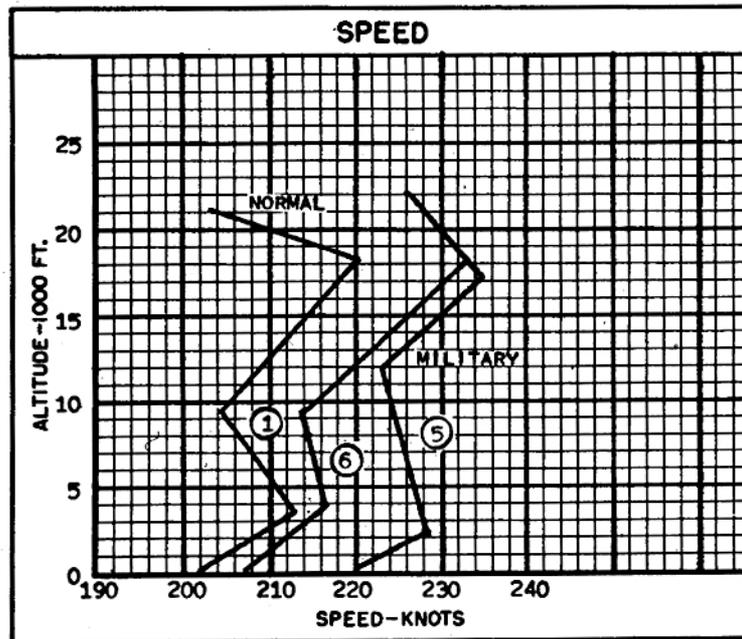
POWER PLANT			MISSION AND DESCRIPTION		ORDNANCE																											
No. & Model..... (1) J33-A-24 Mfr Allison Type Centrifugal Length 107" Diam 50" Augmentation None			The T-1A is a two-place single engine trainer designed for land or carrier base operations. The primary mission is to train pilots in aerobatics, confidence maneuvers, instrument flying and carrier landing and take-off operations.		None																											
RATINGS <table> <thead> <tr> <th></th> <th>LBS.</th> <th>@ RPM</th> <th>@</th> <th>ALT.</th> </tr> </thead> <tbody> <tr> <td>MIL</td> <td>6100</td> <td>11800</td> <td></td> <td>SSL</td> </tr> <tr> <td>NORM</td> <td>5050</td> <td>11200</td> <td></td> <td>SSL</td> </tr> </tbody> </table> Specification No. 405				LBS.	@ RPM	@	ALT.	MIL	6100	11800		SSL	NORM	5050	11200		SSL	Design features include fully automatic leading edge slats and single-slotted trailing edge flaps with blowing system boundary layer control. The airplane has fixed wing tip tanks, arresting hook and catapult equipment.		FUEL AND OIL <table> <thead> <tr> <th>No. Tanks</th> <th>Tot. Gals</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>162</td> <td>Wing</td> </tr> <tr> <td>1</td> <td>149</td> <td>Fuselage</td> </tr> <tr> <td>2</td> <td>474</td> <td>Wing Tip</td> </tr> </tbody> </table> Fuel Grade JP-4 Fuel Spec..... MIL-F-5624B	No. Tanks	Tot. Gals	Location	4	162	Wing	1	149	Fuselage	2	474	Wing Tip
	LBS.	@ RPM	@	ALT.																												
MIL	6100	11800		SSL																												
NORM	5050	11200		SSL																												
No. Tanks	Tot. Gals	Location																														
4	162	Wing																														
1	149	Fuselage																														
2	474	Wing Tip																														
WEIGHTS <table> <thead> <tr> <th>LOADING</th> <th>LBS.</th> <th>L.F.</th> </tr> </thead> <tbody> <tr> <td>EMPTY</td> <td>10,844</td> <td>.....</td> </tr> <tr> <td>BASIC</td> <td>11,023</td> <td>.....</td> </tr> <tr> <td>DESIGN</td> <td>16,600</td> <td>.. 7.06</td> </tr> <tr> <td>COMBAT</td> <td>13,899</td> <td>.....</td> </tr> <tr> <td>MAX.T.O.(Field) ..</td> <td>16,600</td> <td>.....</td> </tr> <tr> <td>(Cat)</td> <td>16,500</td> <td>.....</td> </tr> <tr> <td>MAX.LAND(Field)</td> <td>14,500</td> <td>.....</td> </tr> <tr> <td>(Cat)</td> <td>14,500</td> <td>.....</td> </tr> </tbody> </table> ALL WEIGHTS ARE ESTIMATED			LOADING	LBS.	L.F.	EMPTY	10,844	BASIC	11,023	DESIGN	16,600	.. 7.06	COMBAT	13,899	MAX.T.O.(Field) ..	16,600	(Cat)	16,500	MAX.LAND(Field)	14,500	(Cat)	14,500	DEVELOPMENT First Flight 1 January 1956 Service Use 1 January 1957		OIL Capacity (Gals)..... 3 Grade 1010 Spec MIL-O-6081A
LOADING	LBS.	L.F.																														
EMPTY	10,844																														
BASIC	11,023																														
DESIGN	16,600	.. 7.06																														
COMBAT	13,899																														
MAX.T.O.(Field) ..	16,600																														
(Cat)	16,500																														
MAX.LAND(Field)	14,500																														
(Cat)	14,500																														
			DIMENSIONS Wing Area 233 Sq. Ft. Span 37' - 7" MAC 6' - 9" Length 38' - 6" Height 12' - 10" Tread 8' - 2"		ELECTRONICS Automatic Dir Finder... AN/ARA-25 UHF Command AN/ARC-27A Marker Beacon Rec AN/ARN-12 Radio Compass Rec AN/ARN-6 VHF Navigation Rec AN/ARN-14E TACAN.....AN/ARN-21 Glide Path Rec..... AN/ARN-18 Identification Radar ... AN/APX-6 Coder AN/APA-89 Interphone AN/AIC-10 Radar Altimeter AN/APN-22																											

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION	(1) PATROL ASW 2-MK43 TORPEDOES 8-HVAR 5" ROCKETS	(4) PATROL MINING 4-MK-39	(7) FERRY		
TAKE-OFF WEIGHT	lb. 76595	78000			76231
Fuel internal/external ()	lb./lb. 20304	16689			23754
Payload	lb. 2487	8168			0
Wing loading	lb./sq.ft. 54.4	55.5			54.2
Stall speed - power-off FLAPS = 30°	kn. 97.2	98.0			97.1
Take-off run at S.L. - calm (B) NO JATO/NATO	ft. 4300/3200	4630/3460			4200/3150
Take-off run at S.L. - calm	kn. wind				
Take-off to clear 50 ft. - calm	ft. -	-			-
Max. speed/altitude (A)	kn./ft. 220/18200	220/18200			220/18200
Rate of climb at S.L. (A)	fpm. 770	760			810
Time: S.L. to 10000 ft. (A)	min. 15.5	16.0			15.0
Time: S.L. to 20000 ft. (A)	min. 45.5	46.0			41.5
Service ceiling (100 fpm)	ft. 20600	20700			21100
Combat range	n.mi. 2147	1677			2658
Average cruising speed	kn. 138	139			136
Cruising altitude(s)	ft. 1500	1500			1500
Combat radius	n.mi. 858	820			1063
Average cruising speed	kn. 138	140			136
MISSION TIME (RANGE)(C)	15.55	11.73			
COMBAT LOADING CONDITION	(2) CLEAN	(3) CLEAN	(5) CLEAN	(6) CLEAN	
COMBAT WEIGHT	lb. 65986	65986	59819	59819	
Engine power	MILITARY	NORMAL	MILITARY	NORMAL	
Fuel	lb. 12182	12182	6676	6676	
Combat speed/combat altitude	kn./ft. 224/1500	210/1500	225/1500	211/1500	
Rate of climb/combat altitude	fpm/ft. 1420/1500	1070/1500	1730/1500	1320/1500	
Combat ceiling (500 fpm)	ft. 18200	18200	21900	21900	
Rate of climb at S.L.	fpm. 1470	1080	1790	1330	
Max. speed at S.L.	kn. 218	205	219	207	
Max. speed/altitude	kn./ft. 231/17400	229/18200	235/17300	233/18200	
LANDING WEIGHT	lb. 55187	55187	54345	54345	54033
Fuel	lb. 1383	1383	1202	1202	1556
Stall speed - power-off/appr. power	kn./km. 81/68	81/68	80/67	80/67	80/67
Distance - (over 50 ft. obst.)	ft./ft. 1940/2500	1940/2500	1910/2470	1910/2470	1890/2450

NOTES

- (A) NORMAL RATED POWER
- (B) MILITARY RATED POWER
- (C) MISSION TIME = TOTAL TIME FOR CLIMB AND CRUISE
PATROL ASW AND MINING LOADING INCLUDES A CREW OF 12.
FERRY LOADING INCLUDES A CREW OF 5.

PERFORMANCE BASIS: CONTRACTOR AND NATC FLIGHT TESTS



○ LOADING CONDITION COLUMN NUMBER

NOTES

COMBAT RADIUS = 40% OF COMBAT RANGE AT 1500 FT. ALTITUDE FOR PATROL ASW & FERRY MISSIONS
 COMBAT RADIUS IS ACTUAL FOR PATROL MINING MISSION SINCE MINES ARE DROPPED AT RADIUS DISTANCE
 BEFORE RETURN TO BASE.

 RATE-OF-CLIMB AT SEA LEVEL, MILITARY POWER, ONE ENGINE INOPERATIVE, PROPELLER FEATHERED
 ON UNUSED ENGINE, FLAPS UP, STANDARD DAY.

GROSS WT. - LBS

54,000
 60,000
 70,000
 74,000

RATE-OF-CLIMB - FT/MIN

482
 322
 113
 40

ELECTRONICS

COMM

UHF TRANSCEIVER	AN/ARC-27A
HF TRANSCEIVER	AN/ARC-38A
TELETYPEWRITER	TT-254/AG
HF RECEIVER	AN/ARR-41
VHF TRANSCEIVER	AN/ARC-1
INTERPHONE	AN/AIC-5B

RADAR AND IFF

SEARCH RADAR	AN/APS-80
TRANSPONDER	AN/APX-6B
INTERROGATOR	AN/APX-7
CODER	AN/APA-89
DECODER	KY-364/APX

ECM

ECM DIRECTION FINDER	AN/APA-69C
VIDEO SIGNAL AMPLIFIER	AN/APA-74
COUNTERMEASURES RECEIVER	AN/ALR-3
COUNTERMEASURES RECEIVER	AN/ALR-8

ASW

MAD EQUIPMENT	AN/ASQ-8
MANEUVER MONITOR	MX-2230/ASQ
SEARCH LIGHT	AN/AVQ-2A
TAPE RECORDER	AN/UNH-6
SONOBUOY RECEIVER	AN/APR-26
SONOBUOY RECEIVER	AN/ARR-58
RECORDER GROUP	AN/ASA-20
UNIVERSAL SONOBUOY INDICATOR	AN/AQA-1
INDICATOR GROUP	AN/AQA-4(V)
INTEGRATED DISPLAY SYSTEM	AN/ASA-25
INDICATOR GROUP	AN/APA-125A
DETECTING SET	AN/ASR-3

NAV

RADIO COMPASS	AN/ARN-6
RADAR ALTIMETER	AN/APN-22
MARKER BEACON RECEIVER	AN/ARN-12
LORAN	AN/APN-4
VOR	AN/ARN-14E
DOPPLER -INERTIAL NAVIGATOR	AN/APN-122
DIRECTION FINDER	AN/ARA-25
RADIO NAVIGATION SET(TACAN)	AN/ARN-21
NAVIGATOR COMPUTER	AN/ASA-13A
PILOTS PLOTTER	OA-1768/ASA-13
NAVIGATORS PLOTTER	PT-396/AS
TRUE AIRSPEED COMPUTER	T-692/ASA-13
ROLL STABILIZER COMPASS	MF-1

○ LOADING CONDITION COLUMN NUMBER