

P-51D Mustang - Pre-Flight

EXTERNAL CHECK

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|--------------------------|--|
| 1. Tires - | CHECK, proper inflation and wear |
| 2. Landing Gear Struts - | CHECK, clearance = 3 7/16 inch and equal |
| 3. Pitot Tube Cover - | REMOVED |
| 4. Gun Hatch Covers - | SECURED |
| 5. Fuel Tank Caps - | CLOSED and SECURED |
| 6. Aircraft Fasteners - | SECURED |

PRE-START

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|------------------------------|--------------------------|
| 1. Enter Cockpit | |
| a. Ignition Switch - | OFF |
| b. Mixture Control - | IDLE CUT-OFF |
| 2. Fuelage Fuel - | CHECK |
| 3. Flap Handle - | UP |
| 4. Carb Ran Air Control - | FORWARD to RAM AIR |
| 5. Carb Hot Air Control - | FORWARD to NORMAL |
| 6. Trim | |
| 6a. Rudder - | 6° RIGHT |
| 6b. Alleron - | 0° |
| 6c. Elevator | |
| [1] Onboard Fuel Only - | 2° NOSE HEAVY |
| [2] Drop Tank Equipped - | 4° NOSE HEAVY |
| 7. Landing Gear Handle - | DOWN |
| 8. Left Fuel Gauge - | CHECK |
| 9. Mixture Control - | IDLE CUT-OFF |
| 10. Propellor Control - | FORWARD to INCREASE |
| 11. Throttle - | OPEN 1 INCH |
| 12. Gunsight Selector - | ON |
| 13. Armament Switches | |
| 13a. Rockets - | SAFE |
| 13b. Bombs - | OFF |
| 13c. Gun Safety - | OFF |
| 14. Altimeter - | SET |
| 15. Gyro Instruments - | UNCAGE |
| 16. Primary Controls - | UNLOCK and CHECK |
| 17. Parking Brake - | SET |
| 18. Supercharger - | AUTO |
| 19. Fuel Shut Off Valve - | ON |
| 20. Fuel Selector Valve - | MAIN TANK L.H. |
| 21. Right Fuel Gauge - | CHECK |
| 22. Fuel Booster - | ON |
| 23. Ignition Switch - | BOTH |
| 24. Battery Switch - | ON |
| 25. Generator Switch - | ON |
| 26. Coolant and Oil Radiator | CLOSE to OPEN, CHECK for |
| Flap Control Switches | Operation, SET at AUTO |
| 27. Ldg Gear Warn Lights - | CHECK |
| 28. Oxygen Gauge - | CHECK, 400 PSI |
| 29. Lights - | CHECK for Night Flying |

START-UP

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| 1. Primer | |
| 1a. Cold | 3 - 4 Second |
| 1b. Hot | 1 Second |
| 2. Starter | ENGAGE and HOLD |
| 3. Mixture Control - | RUN, as engine starts |
- ** Note ** If engine fails to start after several revolutions, PRIME for additional 1 Second

- CAUTION - If the engine cuts out after starting, IMMEDIATELY return the mixture control to IDLE CUT-OFF

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| 4. Oil Pressure - | 50 PSI within 30 seconds |
| 5. Throttle - | IDLE at 1200 - 1300 RPM |
| 5a. Oil Temperature - | 40° C |
| 5b. Oil Pressure - | STEADY |
| 6. Suction Gauge - | 3.75 to 4.25 inches of vac |
| 7. Engine Instruments - | CHECK, within limits |
| 8. Throttle - | IDLE at 1000 RPM after engine is warmed up |

PREFLIGHT CHECK

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|--------------------------------------|--|
| 1. Primary Controls - | CHECK |
| 2. Instruments | |
| 2a. Altimeter and Directional Gyro - | SET |
| 2b. Engine Instruments - | CHECK, within limits |
| 3. Fuel System | |
| 3a. Fuel Selector Valve - | MAIN TANK L.H. |
| 3b. Fuel Booster - | ON |
| 3c. Primer - | OFF |
| 4. Flaps - | SET (0° or 15-20° as required) |
| 5. Trim - | CHECK |
| 6. Engine | |
| 6a. Propellor Control - | FORWARD to INCREASE |
| 6b. Power Check - | Throttle to 2300 RPM. MP should read .5" less than field baro pressure (+/- .5") |

- CAUTION - MP in excess of field barometric pressure indicates that engine is not producing maximum power and should be checked

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| 7. Ignition System | |
| 7a. Propellor Control - | FORWARD to INCREASE |
| 7b. Throttle - | 2300 RPM |
| 7c. Ignition Switch - | To L to BOTH to R to BOTH. Max to L is 130 RPM, Max drop to R is 100 RPM |
| 8. Idle Speed Check - | Throttle to IDLE. RPM at 650 - 700 RPM |
| 9. Carb Air Controls - | RAM AIR and NORMAL |
| 10. Mixture Control - | RUN |
| 11. Supercharger Control - | AUTO |
| 12. Radiator Controls - | AUTO |

P-51D Mustang

AIRSPPEED LIMITATIONS



V _{NE}	505
V _{DROPTANKS}	400
V _{SIDE}	175
V _{LE}	170
V _{FE}	165
V _{REF}	120
V _S	101*
V _{SO}	94*
V _Y	170
V _X	100

* Gross Wt. 9000 lbs.

Maximum IAS

Altitude	IAS
0 - 5000 FT	505
10,000 FT	480
20,000 FT	400
30,000 FT	300
40,000 FT	260

Flap Operating Limits	
Flap Angle	Max IAS
10	400
20	275
30	225
40	180
50	165

ENGINE OPERATING LIMITS

Limitation	RPM	MP	Blower	Fuel Burn	Mix		
Take Off	5 mins	3000	61	Low	150	Run	Take Off
WEP	5 mins	3000	67	Low	166	Run	WEP
				High	160		
Military	15 mins	3000	61	Low	158	Run	Military
				High	144		
Max Contin	Contin	2700	46	Low	111	Run	Max Contin
				High	106		
Max Cruise	Contin	2400	36	Low	70	Run	Max Cruise
				High	70		

Eng Ovrspd - 3240 RPM

Low Bhr Undrpd - 1600

High Bhr Undrpd - 2000

ENGINE MANAGEMENT

	ENGINE GAUGE		Oil System		Fuel	Hydr Press Gauge	Suction Gauge
	Carb Air Temp	Coolant Temp					
	Temp °C	Temp °C	Temp °C	Press PSI	Press PSI	Press PSI	Press in Hg
Minimum	-	60°	40°	60	12	600	3.75
Desired	10° - 30°	100° - 110°	70° - 80°	70 - 80	12 - 16	1050 +/- 50	4.00
Maximum	40°	121°	90°	90	19	1250	4.25

Notes, Cautions, and Warnings

Load Factor Limitations

** Note ** An operating procedure or condition that is essential to emphasize

-- CAUTION -- An operating procedure or condition that may result in damage to equipment if not carefully observed or followed

!!! WARNING !!! An operating procedure or condition that could result in injury or death if not carefully observed or followed.

