

# P-51D Mustang - Pre-Flight

## EXTERNAL CHECK

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

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
  - Flap Control Switches - CLOSE to OPEN, CHECK for Operation, SET at AUTO
27. Ldg Gear Warn Lights - CHECK
28. Oxygen Gauge - CHECK, 400 PSI
29. Lights - CHECK for Night Flying

## START-UP

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
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

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

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

## AIRSPED LIMITATIONS



V <sub>NE</sub>	505
V <sub>DROPTANKS</sub>	400
V <sub>SLIDE</sub>	175
V <sub>LE</sub>	170
V <sub>FE</sub>	165
V <sub>REF</sub>	120
V <sub>S</sub>	101*
V <sub>SO</sub>	94*
V <sub>Y</sub>	170
V <sub>X</sub>	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
			35	High	70		
Eng Ovrspd - 3240 RPM		Low Blwr Undrspd - 1600		High Blwr Undrspd - 2000			

## ENGINE MANAGEMENT

	Carb Air Temp	Coolant Temp	ENGINE GAUGE			Hydr Press Gauge	Suction Gauge
			Oil System		Fuel		
			Temp °C	Press PSI	Press PSI		
Minimum	-	60°	40°	80	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.

