

BUSHBY MUSTANG II

DESIGNER'S AIRCRAFT SPECIFICATIONS AND LIMITATIONS

Mustang II Aircraft flight characteristics are similar to the flight characteristics of other Standard Category aircraft.

Aeronautical skill and knowledge required to obtain FAA issued Private Pilot class license is sufficient, and required, for the operation of Mustang II aircraft. Of particular importance is the effects of temperature, atmospheric pressure, and density altitude on the aircraft's performance. The pilot must be aware of increased stall speed as related to angle of bank, "G" forces, and increases of operating weights. Also the increase of turning radius as related to increased airspeed.

Engine operating procedures, conditions, and instrument markings to be in accordance with the engine manufacturer's operating manual.

Operation of installed equipment, such as alternator, battery, lights, electronic equipment, etc. are to be in accordance with the equipment manufacturer's manuals and instructions.

CANOPY NOT TO BE OPENED IN FLIGHT.

MAXIMUM ALLOWABLE POWER:

160 maximum continuous horsepower.

NOTE: 80% power, or approximately 24 ½ in. manifold pressure when 360 CID engine is installed.

GROSS WEIGHT AND LOAD FACTORS:

1850 lb. Gross - Maximum Takeoff weight

At 1600 lb. Gross - 5.0 G pos. & neg.

At 1250 lb. Gross - 6.0 G pos. & neg.

Center of Gravity Limits - Station 66.75 to 72.75 (16% to 28% MAC)

Reference Datum is Fuselage Station Zero.

Forward face of firewall is Station 47.75.

Center of center section main spar is Station 73.75

Crew weight - refer to moment determination chart.

Maximum baggage - Main baggage compartment 80 lbs.

Tailcone baggage compartment 35 lbs.

Consult Loading Chart for weight limitations.

FUEL CAPACITY:

Fuselage Tank -

25 usable gallons.

Wing Tanks -

18 gallons each

Total Fuel Capacity -

61 gallons

Minimum fuel for takeoff -

5 gallons.

FLIGHT
TESTED
KIAS

OPERATING SPEEDS

| | | | |
|-----|-------------------------|---------|-------|
| Vne | Never Exceed Speed | 230 mph | 200 K |
| Va | Maneuvering Speed | 140 mph | 121 K |
| Vfe | Flap Extension Speed | 100 mph | 87 K |
| Vs | Stall Speed (No Flap) | 62 mph | 54 K |
| Vso | Stall Speed (Full Flap) | 58 mph | 50 K |

49 KIAS
45 KIAS

Stall Speed Relative to Angle of Bank:

| Degree of Bank | Stall Speed |
|----------------|-------------|
| 0 | 62 mph 54 K |
| 30 | 66 mph 57 K |
| 45 | 74 mph 64 K |
| 60 | 88 mph 76 K |

NOTE: Listed stall speeds may vary depending upon individual workmanship and modifications.

| | | | |
|----|-------------------------------------|--------|------|
| Vx | Best Angle of Climb Speed | 75 mph | 65 K |
| Vy | Best Rate of Climb Speed | 95 mph | 83 K |
| | Normal Glide Speed | 90 mph | 78 K |
| | Max Demonstrated Crosswind Velocity | 20 mph | 17 K |

65 KIAS
75 KIAS

AIRSPEED INDICATOR MARKINGS:

| | |
|-------------------------------------|------------------------------------|
| White arc - flap operating range: | 58 MPH / 50 K to 100 MPH / 87 K |
| Green arc - normal operating range: | 62 MPH / 54 K to 200 MPH / 174 K |
| Yellow arc - caution range: | 200 MPH / 174 K to 230 MPH / 200 K |
| Red line: | 230 MPH / 200 K |

PERFORMANCE INFORMATION:

Range at 60% Power at 7500 feet altitude is 600 miles (no reserve).

[Fuselage / Main tank only]

Rate of Climb - 1500 FPM.

Service Ceiling - 19,000 Ft.

(Breathing Oxygen is Required at altitudes Above 12,500 Ft.)

Take-Off Distance Ground Run - 600 Ft.

Take-Off Distance to Clear 50 Ft. Obstacle - 1,000 Ft.

Landing Distance Ground Run - 1,000 Ft.

Above performance figures based upon fixed pitch metal propeller. Individual flight procedures may alter the above figures.

BUSHBY MUSTANG II

Aircraft Specifications

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|---|----------------------------------|
| Empty Weight | 1,075 lb. 1196 |
| Maximum Takeoff Gross Weight | 1,850 lb. |
| Power Recommendation | 125 to 160 hp. |
| Wing Loading (Maximum) (1850 lbs.) | 19.0 lb/sq. ft. |
| (1600 lbs.) | 16.5 lb/sq. ft. |
| Power Loading | 9.4 to 12.0 lb/HP |
| Power Loading (with 160 HP) (1850 lbs.) | 11.56 lb/HP |
| (1600 lbs.) | 10.0 lb/HP |
| Wingspan | 24'4" |
| Fuselage Length | 19'6" 19'10" |
| Height | 5'5" |
| Wheel Tread | 6'9" |
| Wing Area | 97.10 sq. ft. |
| Flap Area | 8.00 sq. ft. |
| Aileron Area | 4.80 sq. ft. |
| Stabilizer Area | 10.00 sq. ft. |
| Fin Area | 4.25 sq. ft. |
| Elevator Area | 6.85 sq. ft. |
| Rudder Area | 3.72 sq. ft. |
| Trim Tab Area (Elevator) | 0.30 sq. ft. |
| Flap Travel | 40 deg. Max DOWN |
| Elevator Travel | 20 deg. UP, 15 deg. DOWN |
| Aileron Travel | 20 deg. UP, 20 deg. DOWN 23°/17° |
| Trim Tab Travel | 20 deg. UP, 40 deg. DOWN |
| Rudder Travel | 20 deg. RIGHT, 20 deg. LEFT |
| Wing Angle of Incidence | +1.0 deg. |
| Stabilizer Angle of Incidence | -1.5 deg. |
| Wing Washout (Geometric Twist) | 2.5 deg. |
| Wing Dihedral (Outer Panels) | +5.0 deg. |
| Thrust Line Above Fuselage Centerline | 1.25 in. |

BUSHBY MUSTANG II

Aircraft Specifications (con't)

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|---|-----------------------------|
| Baggage Capacity: Main baggage compartment | 80 lbs. |
| Tailcone baggage compartment | 35 lbs. |
| Fuel Capacity (Main Tank) | 25 gal. (150 lbs.) |
| (Wing Tanks) | 36 gal. (216 lbs.) |
| TOTAL | 61 gal. (366 lbs.) |
| Useful Load (Maximum) | 775 lb. 654 lbs. |
| Center of Gravity Limits | 16% to 28% MAC |
| Never Exceed Speed | 230 mph / 200 K |
| Maximum Flap Extension Speed | 100 mph / 87 K |
| Maximum "G" Loading - Aerobatic (at 1,250 lbs.) | 6 Yield, 9 Ultimate |
| (Pos. & Neg.) - Normal (at 1,600 lbs.) | 5 Yield, 7 Ultimate |