PERFORMANCE - SPECIFICATIONS

*SPEED:
- Maximum at Sea Level . . . . . 126 KNOTS
- Cruise, 75% Power at 8500 Feet. . . . . 124 KNOTS

CRUISE: Recommended lean mixture with fuel allowance for engine start, taxi, takeoff, climb and 45 minutes reserve.
- 75% Power at 8500 Feet . . . . . Range - 518 NM
- 53 Gallons Usable Fuel . . . . . Time - 4.26 HOURS
- Range at 10,000 Feet, 45% Power. . . . . Range - 638 NM
- 53 Gallons Usable Fuel . . . . . Time - 6.72 HOURS

RATE-OF-CLIMB AT SEA LEVEL . . . . . 730 FPM

SERVICE CEILING . . . . . 14,000 FEET

TAKEOFF PERFORMANCE:
- Ground Roll . . . . . 960 FEET
- Total Distance Over 50 Foot Obstacle . . . . . 1630 FEET

LANDING PERFORMANCE:
- Ground Roll . . . . . 575 FEET
- Total Distance Over 50 Foot Obstacle . . . . . 1335 FEET

STALL SPEED:
- Flaps Up, Power Off . . . . . 53 KCAS
- Flaps Down, Power Off . . . . . 48 KCAS

MAXIMUM WEIGHT:
- Ramp . . . . . 2558 POUNDS
- Takeoff . . . . . 2550 POUNDS
- Landing . . . . . 2550 POUNDS

AIRSPEEDS

AIRSPEEDS FOR NORMAL OPERATION

Unless otherwise noted, the following speeds are based on a maximum weight of 2550 pounds and may be used for any lesser weight.

TAKEOFF:

Normal Climb Out	75 - 85 KIAS
Short Field Takeoff, Flaps 10°, Speed at 50 Feet	56 KIAS

ENROUTE CLIMB, FLAPS UP:

Normal, Sea Level	75 - 85 KIAS
Normal, 10,000 Feet	70 - 80 KIAS
Best Rate-of-Climb, Sea Level	74 KIAS
Best Rate-of-Climb, 10,000 Feet	72 KIAS
Best Angle-of-Climb, Sea Level	62 KIAS
Best Angle-of-Climb, 10,000 Feet	67 KIAS

LANDING APPROACH:

Normal Approach, Flaps UP	65 - 75 KIAS
Normal Approach, Flaps FULL	60 - 70 KIAS
Short Field Approach, Flaps FULL	61 KIAS

BALKED LANDING:

Maximum Power, Flaps 20°	60 KIAS

MAXIMUM RECOMMENDED TURBULENT AIR PENETRATION SPEED:

2550 POUNDS	105 KIAS
2200 POUNDS	98 KIAS
1900 POUNDS	90 KIAS

MAXIMUM DEMONSTRATED CROSSWIND VELOCITY:

Takeoff or Landing	15 KNOTS

TAKEOFF

NORMAL TAKEOFF

1. Wing Flaps - UP - 10° (10° preferred)
2. Throttle Control - FULL (push full in)
3. Mixture Control - RICH
   (Above 3000 feet pressure altitude, lean for maximum RPM)
4. Elevator Control - LIFT NOSEWHEEL AT 55 KIAS
5. Climb Speed - 70 - 80 KIAS
6. Wing Flaps - RETRACT at safe altitude

SHORT FIELD TAKEOFF

1. Wing Flaps - 10°
2. Brakes - APPLY
3. Throttle Control - FULL (push full in)
4. Mixture Control - RICH
   (Above 3000 feet pressure altitude, lean for maximum RPM)
5. Brakes - RELEASE
6. Elevator Control - SLIGHTLY TAIL LOW
7. Climb Speed - 56 KIAS (Until all obstacles are cleared)
8. Wing Flaps - RETRACT SLOWLY (When airspeed is more than 60 KIAS)

ENROUTE CLIMB

1. Airspeed - 70 - 85 KIAS
2. Throttle Control - FULL (push full in)
3. Mixture Control - RICH
   (Above 3000 feet pressure altitude, lean for maximum RPM)

TAKEOFF

POWER CHECK

It is important to check full throttle engine operation early in the takeoff roll. Any sign of rough engine operation or sluggish engine acceleration is good cause for discontinuing the takeoff. The engine should run smoothly and turn approximately 2300 - 2400 RPM with mixture leaned to provide maximum RPM.

Prior to takeoff from fields above 3000 feet pressure elevation, the mixture should be leaned to give maximum RPM at full throttle with the airplane not moving.

After full throttle is applied, adjust the throttle friction lock clockwise to prevent the throttle from moving back from the maximum power position. Similar friction lock adjustments should be made as required in other flight conditions to hold the throttle setting.

WING FLAP SETTINGS

Normal takeoffs use wing flaps UP - 10°. Using 10° wing flaps reduces the ground roll and total distance over an obstacle by approximately 10 percent. **Flap deflections greater than 10° are not approved for takeoff.** If 10° wing flaps are used for takeoff, the flaps should stay at 10° until all obstacles are cleared and a safe flap retraction speed of 60 KIAS is reached. For a short field, 10° wing flaps and an obstacle clearance speed of 56 KIAS should be used.

LANDING

NORMAL LANDING

1. Airspeed - 65 - 75 KIAS (Flaps UP)
2. Wing Flaps - AS DESIRED (UP - 10° below 110 KIAS, 10° - FULL below 85 KIAS)
3. Airspeed - 60 - 70 KIAS (Flaps FULL)
4. Elevator Trim Control - ADJUST
5. Touchdown - MAIN WHEELS FIRST
6. Landing Roll - LOWER NOSEWHEEL GENTLY
7. Braking - MINIMUM REQUIRED

SHORT FIELD LANDING

1. Airspeed - 65 - 75 KIAS (Flaps UP)
2. Wing Flaps - FULL
3. Airspeed - 61 KIAS (until flare)
4. Elevator Trim Control - ADJUST
5. Power - REDUCE to idle after clearing obstacle
6. Touchdown - MAIN WHEELS FIRST
7. Brakes - APPLY HEAVILY
8. Wing Flaps - UP

BALKED LANDING

1. Throttle Control - FULL (push full in)
2. Wing Flaps - RETRACT to 20°
3. Climb Speed - 60 KIAS
4. Wing Flaps - 10° (until obstacles are cleared), then UP (after reaching a safe altitude and 65 KIAS)

SHORT FIELD LANDING

For a short field landing in smooth air conditions, approach at 61 KIAS with FULL flaps using enough power to control the glide path. (Slightly higher approach speeds should be used in turbulent air conditions.) After all approach obstacles are cleared, smoothly reduce power and hold the approach speed by lowering the nose of the airplane. The main wheels must touch the ground before the nose wheel with power at idle. Immediately after the main wheels touch the ground, carefully lower the nose wheel and apply heavy braking as required. For maximum brake performance, retract the flaps, hold the control wheel full back, and apply maximum brake pressure without skidding the tires.

CROSSWIND LANDING

When landing in a strong crosswind, use the minimum flap setting required for the field length. If flap settings greater than 20° are used in sideslips with full rudder deflection, some elevator oscillation may be felt at normal approach speeds. However, this does not affect control of the airplane. Although the crab or combination method of drift correction may be used, the wing low method gives the best control. After touchdown, hold a straight course with the steerable nosewheel, with aileron deflection as applicable, and occasional braking if necessary.

The maximum allowable crosswind velocity is dependent upon pilot capability as well as airplane limitations. Operation in direct crosswinds of 15 knots has been demonstrated (not an operating limitation).

BALKED LANDING

In a balked landing (go-around) climb, reduce the flap setting to 20° immediately after full power is applied and climb at 60 KIAS. If obstacles must be cleared during the go-around climb, reduce the wing flap setting to 10° and maintain a safe airspeed until the obstacles are cleared. Above 3000 feet pressure altitude, lean the mixture to obtain maximum RPM. After clearing any obstacles, carefully retract the flaps and allow the airplane to accelerate to normal climb airspeed.