



1981 CESSNA 182 SYSTEMS SUMMARY N724RJ

ENGINE

Continental 6 cylinder O-470-U, 230 HP @2400 RPM, air cooled, direct drive, horizontally opposed, normally aspirated. Oil capacity is 13 quarts maximum, 10 quarts minimum required for flight.

PROPELLER

McCauley, constant speed, three blades. A propeller governor uses oil pressure from the crankcase to control the RPM by changing the blade pitch for increased efficiency.

BRAKES

Hydraulic discs located on each of the two main landing gear's provide braking. Two master cylinders, one behind each brake pedal on the pilot's side control each individual wheel. The co-pilot's brake pedals are mechanically connected to the pilots brake pedals.

FLAPS

The flaps are electrically operated single slot type. Flaps can be selected from 0° to 40°. Caution should be exercised when selecting 40° of flaps!

FUEL SYSTEM

Fuel is carried in two wing tanks with a total capacity of 92 gallons. Total unusable fuel is 4 gallons. A total of 88 gallons usable fuel is available. Fuel is gravity fed to the engine. The fuel selector valve has four positions: Both, Left, Right, Off. The fuel selector should be set to Both for all takeoffs and landings. Each fuel tank has one sump. The entire fuel system can be sumped by pulling on the fuel strainer knob located in the cabin on the lower instrument panel.

ELECTRICAL SYSTEM

Electrical energy is supplied by a 14 volt direct current system powered by an engine driven alternator. A 12 volt battery is located aft of the rear baggage compartment wall. When the engine is running and the master switch is "on" the ammeter indicates the charging rate applied to the battery. The ammeter will show a discharge when the alternator is not functioning or the electrical load exceeds the output capacity of the alternator. Electrical circuits are protected by circuit breakers mounted on the instrument panel, and fuses (see owners manual pages 2-3).

AUTOPILOT: Cessna 300 is a navomatic single AXIS autopilot. Features 1) heading hold 2) VOR radial tracking and 3) localizer tracking.



1981 CESSNA 182 RECOMMENDED PROCEDURES N724RJ

STEEP POWER TURNS

Two 90° or one 180° turns. Set power to 22" MP & 2300 RPM and note the airspeed. Roll into a bank of 50° angle of bank. Begin applying back pressure and add 1" to 2" MP passing 30° angle of bank. Begin roll out 10 °before assigned heading and relax back pressure, reduce power to 22" passing 30° angle of bank. Maintain a constant altitude, airspeed, and roll out on the assigned heading.

SLOW FLIGHT

Two 90° or one 180° clearing turns. Open the cowl flaps and reduce power to 15" MP. Below 95 KIAS select 40° flaps. At an airspeed of 60 KIAS add power to approximately 20" MP. Maintain 55 KIAS with pitch control, Altitude with power, and a constant heading with an emphases on rudder control. To recover advance power to 23" MP, decrease pitch attitude, *slowly* select the flaps up in increments while accelerating to cruise.

APPROACH TO LANDING STALL

Two 90° or one 180° clearing turns. . Open the cowl flaps and reduce power to 15" MP. Below 95 KIAS select 40° flaps. Establish the aircraft in a landing attitude. Hold this attitude by increasing elevator back pressure until obtaining stall buffet. To recover decrease pitch attitude, select full power, flaps to 20°, accelerate to V_x (54 KIAS) airspeed, with a minimum altitude loss.

TAKEOFF/DEPARTURE STALL

Two 90° or one 180° clearing turns. Open the cowl flaps and reduce power to 15" MP. Below 95 KIAS select 40° flaps. Slow to 70 KIAS and increase pitch to slightly higher than climb attitude. Select a power setting of 22" MP & 2400 RPM and hold this attitude by increasing elevator back pressure until obtaining stall buffet. To recover, decrease the pitch, select full power, accelerate to climb airspeed V_x (54 KIAS), then increase speed to V_y (78 KIAS) and *slowly* retract the flaps with minimum altitude loss.

SHORT FIELD TAKEOFF

Select 20° flaps, advance power to full, hold brakes and verify full power, release brakes. Allow the aircraft to accelerate with neutral elevator until reaching 50 KIAS, raise the nose to the takeoff attitude and allow the aircraft to fly itself into the air, then adjust the pitch attitude to climb at V_x (54 KIAS) until clear of the obstacle. When clear of the obstacle, accelerate to V_y (78 KIAS) and *slowly* raise the flaps, then transition to an enroute climb when desired.

SOFT FIELD TAKEOFF

Select 20° flaps, advance power to full while on the roll, (do not hold brakes) and establish a takeoff attitude. Let the airplane fly itself into the air, once airborne and in ground affect, lower nose to accelerate to climb speed V_y (78 KIAS) while in ground effect. After reaching V_y, allow the aircraft to climb out of ground effect at V_y (78 KIAS) and very *slowly* raise the flaps, allowing the speed to increase to your desired climb speed.

NORMAL LANDING

Select carburetor heat on. Set power to 20" MP in the pattern and maintain 80 KIAS. At the abeam position reduce power to 14 inches MP, select 15° flaps, adjust pitch to maintain 80 KIAS. Base leg select flaps to 25°, airspeed to 75 KIAS. On final, set flaps to full maintain airspeed 70 KIAS. **TRIM NOSE UP.** Make sure to have the airplane perfectly trimmed on final approach. Power should be reduced to idle when reaching the runway is assured. In the landing flare touch down on the mains holding the nose wheel off until the elevator loses effectiveness. *When clear of runway perform after landing checklist.*

SHORT FIELD LANDING

Select carburetor heat on. Set power to 20" MP in the pattern & maintain 80 KIAS. At the abeam position reduce power to 14" MP, select 15° flaps adjust airspeed to 75 KIAS . Base leg select flaps to 25°, airspeed to 70 KIAS. On final , select flaps to full maintain airspeed 60 KIAS. **TRIM NOSE UP.** Make sure to have the airplane perfectly trimmed on final approach. Power should be reduced to idle when reaching the runway is assured. In the landing flare touch down on the mains first, lower the nose to the runway, retract the flaps, apply maximum braking without skidding the tires. *When clear of runway perform after landing checklist.*

SOFT FIELD LANDING

Select carburetor heat on. Set power to 20" MP in the pattern & maintain 80 KIAS. At the abeam, position reduce power to 14" MP, select 15° flaps adjust airspeed to 75 KIAS . Base leg select flaps to 25°, airspeed to 70 KIAS. On final, select flaps to full maintain airspeed 60 KIAS. **TRIM NOSE UP.** Make sure to have the airplane perfectly trimmed on final approach. In the landing flare use power as required, but insure you carry just a little power as you touch down in case you need to go-around. Pick a touchdown point, and attempt to hold the airplane off the runway as long as possible by landing on the mains while increasing back pressure until the elevator losses its effectiveness, controlling nose wheel touchdown. Use no brakes, power should be reduced to idle after landing, during roll-out. *When clear of runway perform after landing checklist*

GO AROUND

Power to full throttle, carburetor heat off, establish a climb attitude, retract flaps to 20° immediately, retract flaps to 10° passing through V_x (54 KIAS), *slowly* retract flaps to 0° passing through V_y (78 KIAS). Accelerate to normal climb speed.

INSTRUMENT APPROACH POWER SETTINGS

ILS :

100 MPH: 16" MP & 2300 RPM

NON-PRECISION:

100 MPH: 13" MP & 2300 RPM



AIRCRAFT CHECK-OUT 1981 C-182R N724RJ

Aircraft Make and Model _____
Engine Make and Model _____
Rated Horsepower _____ BHP at _____ RPM
Propeller Type _____
Maximum Gross Weight _____ LB. Maximum Weight in Baggage _____ LB.
Basic Empty Weight for N _____ is _____ LB. _
Useful Load for N _____ is _____ LB.

Speeds

Vne _____ KIAS Vfe _____ KIAS Vr _____ KIAS
Vno _____ KIAS Vy _____ KIAS Vso _____ KIAS
Va _____ KIAS at _____ LB. Vx _____ KIAS Vsl _____ KIAS
Enroute Climb Speed _____ KIAS
Final Approach Speed with Flaps Down _____ KIAS
Final Approach Speed with Flaps up _____ KIAS
Demonstrated Crosswind Component _____ KIAS
Best Glide Speed _____ KIAS

Fuel/Oil System

Number of Fuel Tanks _____
Total Capacity of each Tank _____
Total Usable Fuel _____ Gallons
Where are the fuel drains located? _____
Fuel Grade and color _____
Oil Capacity _____ Qt.
Minimum Oil Quantity for Flight _____ Qt.
Oil Type Used _____ 50 Wt.

Electrical System

_____ Volt Battery _____ Volt Alternator
If the ammeter is indicating a Discharge, what might this be indicative of?
1. _____ or
2. _____
Where is the battery Located _____
Where is the External Power Receptacle Located _____

Power Setting and Engine Care

1. What is Climb Power Setting? _____ MP _____ RPM.
2. What is Cruise Power Setting? _____ MP _____ RPM.
3. During a descent from cruise altitude, the engine should be "stage cooled" at _____ inches of manifold per _____ minute (s).
4. What power setting should be established for entering the traffic pattern?
Approximate MP _____ and RPM _____.
5. Cowl Flaps should be **OPEN/CLOSED**.....
_____ While Taxiing
_____ During Climb to Altitude
_____ During Cruise Flight
_____ During Descent from Altitude
_____ After Landing and Clear of Runway
6. How do you detect carburetor ice? _____

Aircraft Performance

1. Complete the following Weight and Balance

Basic Empty Weight	_____ LB.	Moment	_____
Usable Fuel	_____ LB.	Moment	_____
Pilot and Front Passenger	_____ LB.	Moment	_____
Rear Passengers	_____ LB.	Moment	_____
Baggage	_____ LB.	Moment	_____

Total Moment _____ LB. divide by Total Weight _____ = _____ CG

2. Takeoff

Calculate the ground roll and total to clear a 50 foot obstacle takeoff distances at maximum gross weight, departing from a field elevation of 2500 feet. ATIS reports wind calm and temperature 20°C.

3. Enroute:

Calculate the ground roll and total to clear a 50 ft. obstacle at maximum gross weight from a field elevation of 2500 feet. ATIS reports wind calm and temperature 20°C.

What percentage BHP and TAS can you expect with this pressure and 2300 RPM?

4. Landing:

Calculate the ground roll and total to clear a 50 foot obstacle landing distance at maximum gross weight, sea level field elevation, standard temperature, wind calm.

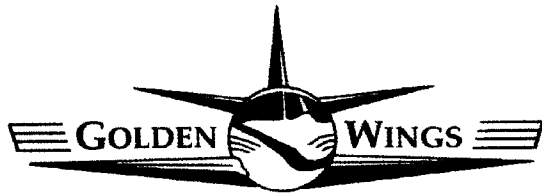
What is the recommended short field approach speed and configuration? _____

What are the recommended soft field takeoff and landing configurations and procedures?

Pilots Name _____

Date _____

Instructor _____



Golden Wings, Inc. Aircraft Checkout Form 1981 C-182R N724RJ

Name _____
 Date Last Biennial _____ or Date Last Annual _____
 Date Last Medical _____ Class _____ Pilot Cert.# _____
 Hours PIC _____ Hours last 6 months _____ Pilot Ratings _____
 Aircraft Check Out (Date) _____ Type A/C _____ N _____

Phase I: Oral Operational Quiz

Check if satisfactory

Recent changes in FAR's	_____
Airspace, controlled and uncontrolled	_____
Airplane and equipment documents	_____
Airplane performance and proper operation of all installed equipment	_____
Airplane loading, weight and balance	_____
Preflight line check	_____
STOL Equipment	_____
High Altitude operations (density altitude)	_____
Operation of the GPS	_____

Phase II: Basic Piloting Technique

Normal and crosswind takeoffs and landings	_____
Short field takeoff and landing over 50' obstacle	_____
Soft field takeoff and landing	_____
Flight at minimum controllable airspeeds	_____
Stalls from all normally anticipated flight attitudes	_____
Go-arounds	_____
720° steep turns (45° bank minimum)	_____
Slips to a landing	_____
In-flight emergency procedures	_____
Simulated equipment failures	_____
Radio communication and navigation	_____
STOL Operations	_____
High Density Altitude Operations	_____
Other (specify) _____	_____

Phase III: Instrument Flight

Straight and level, shallow climbing and descending turns to given altitude heading	_____
Approaches (# _____, type _____), for IFR pilots	_____
Recovery from start of power-on spiral	_____
Recovery from the approach to a climbing stall	_____
High Density Altitude Flight Operations	_____
Emergency descents	_____
In flight operation of the GPS, including at least two approaches	_____
Other (specify) _____	_____

Comments _____

Instructor Name _____ **Signature** _____

CFI No. _____ Expiration Date _____

Signature of pilot _____ **Date** _____