NORMAL TAKE-OFF & CLimb
1. Flaps at 0 degrees.
2. Ailerons into the wind and elevator about ½” back from the gust lock hole.
3. Apply smooth full power, then check for at least 2300 RPMs and oil temperature and pressure in the green.
4. Maintain runway alignment with rudder (mostly right).
5. Slowly decrease aileron deflection as the airplane accelerates.
6. At 55KIAs pull elevator back to pull nosewheel off the ground and place the top edge of the cowling on the horizon.
7. Establish Wind Correction Angle to stay over the runway.
8. Keep the top of the cowling on the horizon and the wings level. Climb Speed 70-80 KIAS

LEVEL OFF
1. 20 feet before reaching desired altitude, reduce pitch to level attitude (increasing forward yoke pressure).
2. Accelerate to 100KIAs keeping level attitude.
3. Reduce power to 2400 RPM (throttle back).
4. Trim.
5. Check Heading Indicator.

DESCENT
1. Reduce power to 2000 RPM (throttle back).
2. Allow the cowling to lower and stabilize.
3. Adjust pitch for 110KIAs and 500ft per min. descent.
4. At 50 feet above desired altitude, increase power back to 2400 RPM.

LEVEL TURN
1. Lift wing and check for traffic in direction of turn. (Use rudder to hold heading).
2. Smoothly apply aileron deflection and rudder pressure in direction of turn. (Slight left rudder pressure in left turn, more right rudder in right turn). Watch cowling/horizon in turn.
3. As airplane banks, apply slight elevator back pressure proportional to steepness of bank, to hold altitude.
4. When proper bank angle is established – neutralize ailerons to maintain bank.
5. 5 degrees before the desired heading, apply ailerons and rudder opposite the direction of turn, simultaneously reducing elevator backpressure.
**STEEP TURNS**
1. Ask instructor/examiner/passengers to help look for traffic.
2. Do one 180 degree or two 90 degree clearing turns.
3. When rolling in to the turn, dial in 2 full turns of nose up trim.
4. Establish a 40 to 45 degree banked turn, focusing on the cowling/horizon.
5. If low, rollout the bank slightly and increase the backpressure.
6. If high, roll in steeper and reduce backpressure.
7. 20 degrees before the desired rollout heading, begin a smooth rollout with rudder and ailerons. Hold pitch down and dial out the nose up trim.

**SLOW FLIGHT**
1. Carb Heat on.
2. Reduce power to 1500RPM, hold heading with rudder (left)
3. Hold altitude with backpressure and trim (three full turns) while decelerating.
4. At 70 KIAS, add power to 1850RPM, adjust pitch and trim for 64KIAS.
5. Adjust altitude with power and maintain 64KIAS with pitch. REMEMBER: PITCH CONTROLS AIRSPEED, POWER CONTROLS ALTITUDE.
6. Maintain altitude while making shallow left and right turns.

**SLOW FLIGHT TO CRUISE**
2. Smoothly add full power and forward elevator pressure to hold altitude.
3. Hold heading with rudder (right).
4. Accelerate to 100 Kias
5. Take out 3 turns of nose up trim and reduce power to 2400RPM

**POWER OFF STALL** (Straight ahead and turning)
1. Do one 180 degree or two 90 degree clearing turns.
2. Carb Heat on, power off, smoothly.
3. Hold altitude with pitch.
4. At stall buffet, simultaneously reduce pitch, level the wings, add full power, and Carb Heat off, right rudder pressure.
5. Smoothly raise the pitch to climb attitude.
6. Transition to cruise.
POWER OFF STALL WITH FLAPS  (STRAIGHT AHEAD AND TURNING)
1. Do one 180 degree or two 90 degree clearing turns.
2. Carb Heat on, power to 1700RPM
3. Hold altitude with pitch.
4. Apply full flaps, holding altitude with forward elevator pressure as flaps come down.
5. At final approach speed (65KIAS) smoothly pull off power, establish a descent (as you would coming in for landing), and then raise pitch, simulating a landing stall.
6. At stall buffet, simultaneously reduce pitch, level wings, add full power, Carb Heat off, right rudder pressure.
7. Immediately after power is applied raise flaps to 20 degrees (2 seconds) and raise pitch to climb attitude.
8. As the airplane stabilizes, raise flaps to 10 degrees (2 seconds)
9. Flaps up and transition to cruise.

POWER ON STALL  (Straight ahead and turning)
1. Do one 180 or two 90 degree clearing turns.
2. Carb Heat on, power to 1500RPM
3. Hold altitude with pitch, heading with rudder.
4. At 55KIAS Carb Heat off, full power, right rudder.
5. Gradually continue to increase pitch.
6. At stall buffet, lower pitch below the horizon, then smoothly raise pitch to climb attitude and transition to cruise.

EMERGENCY LANDING
1. Airspeed – Adjust pitch with 3 turns nose up trim to hold 65KIAS.
2. Best place to land – select best site considering length, obstructions, surface, wind direction. If high, spiral down over approach end. If not, fly modified pattern.
3. Checklist – Fuel shutoff valve – ON,  
   Mixture – RICH  
   Throttle – FULL  
   Carb Heat – ON  
   Mags – CHECK LEFT AND RIGHT
4. Declare – Transponder – 7700, Current frequency or 121.5, Mayday X
5. Exit – Just prior to landing –  
   Fuel shutoff Valve – OFF  
   Mixture – IDLE CUTOFF  
   Mags – OFF  
   Master switch – OFF (if you don’t need radio, flaps or lights for landing)  
   Doors – POP OPEN  
   Execute soft field landing
NORMAL LANDING
1. On downwind, abeam the approach end, carb heat on, Power to 1500RPM
2. Hold altitude with pitch. Apply 10 degrees of flaps (within the white arc), and then reduce pitch to hold 75KIAS.
3. When threshold is 45 degrees behind A/C, turn base while applying flaps to 20 degrees. Hold 70KIAS with pitch.
4. Check altitude and adjust with power as needed.
5. Check extended final approach course for traffic and turn final. (Plan to roll out on extended centerline with wind correction angle. Make radio call.
6. Adjust pitch to hold 65KIAS and adjust position on glideslope with power and flaps.
7. Level off at 10ft AGL. Float dowl level to 5ft above the runway.
8. Pull back smoothly and hold A/C off runway as long as possible.

SOFT FIELD TAKE OFF
1. Flaps to 10 degrees.
2. Taxi with elevator full aft, keeping rolling if possible.
3. Line up on runway and smoothly apply full power.
4. Hold elevator backpressure to keep nose wheel just off the ground.
5. When main gear leaves the ground, briskly reduce backpressure to hold A/C in ground effect (10’ AGL).
6. Accelerate to 70KIAS, then begin climb out and raise flaps.

SHORT FIELD TAKE OFF
1. Line up on runway as close to threshold as possible.
2. Hold elevator with gust lock hole 1” back from collar.
3. Hold brakes and apply full power. Check RPMs over 2300 and engine instruments in the green.
4. Release brakes. Accelerate to 55KIAS, and then firmly raise the pitch to climb and hold 59KIAS.
5. When clear of the obstacle, lower pitch to normal climb.

SOFT FIELD LANDING
1. Fly approach and landing as a normal landing.
2. On short final, push Carb Heat off.
3. In the landing flair add a little power to soften the landing.
4. At touch down – POWER OFF, hold full aft elevator.

SHORT FIELD LANDING
1. Fly a normal approach with a slightly extended downwind leg.
2. On final, set full flaps and add power to hold 60KIAS.
3. Power off and pitch down as soon as you can glide to the threshold.
4. Immediately after touchdown lower nose gear, apply brakes, retract flaps and pull yoke aft
CESSNA 400 APPROACH PROCEDURES

PRECISION APPROACH & APPROACH WITH VERTICAL GUIDANCE (WAAS)

1. Get ATIS/AWOS
2. Select and load Approach
3. Brief Approach
4. Baro Min – Set
5. Activate Approach (if not already past IAF) or Vectors to Final
6. When level outbound – 24” MP
7. 
8. Fuel Selector to Fullest Tank
9. At turn to intercept FAC – 22” MP
10. If “Intercept the Localizer” Press NAV
11. When “Cleared for the Approach” Press APR and Taxi Light ON
12. When established inbound - 20” MP
13. Timer – Zero
14. Missed Approach Altitude – Set
15. Mixture – Forward
16. Prop – Forward
17. 1 Dot below GS – 15”MP and set T/O Flaps
18. GS intercept – 12” MP
19. At GS Intercept Altitude – Start Timer
20. Adjust Power for 110 KIAS
21. When Cleared to Land – Landing Light ON
22. Seat Belts – ON

MISSED APPROACH – GO AROUND

1. Go Around – Press
2. Power - Full
3. Pitch – Up to Command Bars
4. Flaps – UP
   Fuel Pump - Armed
5. Missed Approach Altitude – Set
6. FLC – Press
7. Nav – Press (If it was OFF)
8. A/P Modes – Verify GPS and FLC on PFD
9. A/P - ON
10. Adjust NOSE UP or DN to 130 KIAS
11. Report “Missed Approach” and intentions
NON-PRECISION APPROACH

1. Get ATIS/AWOS
2. Select and load Approach
3. Brief Approach
4. Baro Min – Set MDA
5. Insure FAC set on course needle
6. When level outbound – 24” MP
7. Activate Approach or Vectors to Final (If not already Past IAF)
8. Fuel Selector to Fullest Tank
9. At turn to intercept FAC – 22” MP
10. When “Cleared for the Approach” Press APR and Taxi Light ON
11. If ILS w/ GS Inop - Press NAV
12. When established inbound - 20” MP
13. Timer – Zero
14. Stepdown or MDA – Set
15. Mixture – Forward
16. Prop – Forward
17. 0.5 NM from FAF – 15” MP and set T/O Flaps
18. At FAF –press VS, set -800 FPM, 12” MP and Start Timer
19. Adjust Pitch for 800 FPM descent
20. Adjust Power for 110 KIAS
21. When Cleared to Land – Landing Light ON
22. Seat Belts – ON

LANDING FROM APPROACH

When Lights / Runway in sight:
1. A/P - Disconnect
2. Reduce Power and Lower Nose
3. Flaps – Landing
4. Pitch for 85 KIAS
# Pre-Solo Stage Check Checklist

<table>
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<tr>
<th>Student:</th>
<th>CFI:</th>
<th>Aircraft:</th>
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<td><strong>CFI Initial</strong></td>
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<td><strong>Oral:</strong></td>
<td>Great</td>
<td>Good</td>
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<tr>
<td>Paperwork – Pre-Solo Exam</td>
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<td>Radio Usage</td>
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<td>Run up – GPS Setup</td>
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<td>Normal Take-off – Timer, Centerline, No Brakes</td>
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<tr>
<td>Climb – Pitch Control, Departure Procedure</td>
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<tr>
<td>Level Off – Altitude Control</td>
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<td>Turns – Rudder</td>
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<tr>
<td>Steep Turn – Procedure, Altitude, Heading</td>
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<tr>
<td>Slow Flight – Procedure, Altitude</td>
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<tr>
<td>Emergency Landing – Procedure, Pattern, Make TDZ</td>
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<tr>
<td>S-Turns across Tracks/Road – Altitude, Wind Correction</td>
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<tr>
<td>SFRA Re-entry – ATIS/AWOS, Radio</td>
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<tr>
<td>Normal Landing – Procedure, Pitch/Speed Control, Altitude/Power</td>
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<tr>
<td>After Landing Checks – Flow &amp; Checklist</td>
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<tr>
<td>Shut Down – Checklist</td>
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<tr>
<td><strong>CFI signature:</strong> ______________________________ Date: <strong><strong>/</strong></strong>/____</td>
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<tr>
<td>Notes:</td>
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</tbody>
</table>

☐ Cleared to Solo    ☐ Fly w/ Instructor before Solo  ☐ Work w/ Instructor, Schedule w/ Chief Instructor

| Chief Instructor signature: ______________________________ Date: ____/____/____ |
Twin Comanche Procedures

NORMAL T/O & CLIMB
- Timer: Start
- Brakes: Hold
- Throttles: 2200
- Engine Instruments: “Engine Instruments Green”
- Brakes: Release
- Throttles: Full
- 80 MPH: Apply Back Pressure
- “Positive Rate”: Tap Brakes “Gear Up”
- Pitch: Glare shield on Horizon 125 MPH
- 400’ AGL or Clear of Obst: 25” MP/2500 RPM/Pumps-off 1 at a time

CRUISE
- 100’ before level off: Cyl Head Temps Green then Cowl Flaps Closed
- Power: 24”MP/2400 RPM
- Lean: 1400 EGT / 50 Rich of Peak
- Fuel Tanks: Aux tanks as required

DESCENT
- Mixtures: Enrich slightly
- Throttles: 21” MP
- 50’ before Target Alt: 24” MP

PRE-MANEUVER CHECKS
- Area: Clear to left
- Fuel Pumps: On
- Fuel Selectors: Mains
- Mixtures: Rich
- Props: Forward

STEEP TURNS
- Pre-Maneuver Checks: Complete, except props 2400 RPMs
- Heading Bug: On start heading
- Throttles: 21” MP
- Roll: Left 50 degrees
- Throttles: 23” MP
- Elev. Trim: 1.5 Turns Up
- Altitude: Maintain with pitch
- 20 degrees before bug: Roll to 50 degrees right
- Pitch: Forward pressure in transition
20 degrees before bug  Roll level on heading
Elev Trim  1.5 turns down
Throttles  Reduce 2” MP

SLOW FLIGHT
Heading Bug  On start heading
Throttles  21”, 15 sec, trim
  18”, 15 sec, trim
  15”, 15 sec. trim
  12”, 15 sec. trim
Pitch and Trim  To hold 100 MPH
Throttles  Adjust for target altitude, about 14”
Gear  Check under 140 MPH, Down
Throttles  Adjust for Alt, about 16”, trim for 100 MPH
Flaps  Half (5 sec)
Throttles  Adjust for Alt, about 18”, trim for 100 MPH
Flaps  Full (5 sec)
Throttles  Adjust for Alt, about 20”, trim for 100 MPH

POWER OFF STALL
Pre-Maneuver Checks  Complete
Throttles  Reduce in 3’ increments to 15”
Gear Speed  Gear down
Flap Speed  Flaps down
100 MPH  Begin descent
50’ Descent  Slowly raise pitch
Stall Light  “There’s the Stall”
  Level the wings
  Pitch down, slightly above horizon
  Full throttles
  Flaps up for 3 secs.
“Positive Rate of Climb”  Gear Up
Flaps  Up when climb established
At starting altitude  Level-off & cruise

POWER ON STALL
Pre-Maneuver Check  Complete
Throttles  Reduce in 3” increments to 12” MP
Gear Speed  Gear Down
120 MPH  21” MP
Stall Light/Horn  “There’s the Stall”
  Level wings
  Pitch slightly above horizon
  Full throttles
“Positive Rate of Climb”  “Gear Up”
At designated Altitude  Level off and cruise

Emergency Descent
Throttles  Close
Clear and Turn  45 degrees Bank Left
Pitch  20 degrees down, not to exceed Vno (200MPH)

VISUAL APPROACH & LANDING
Descent  Adjust to enter pattern @ pattern altitude
Throttles  17"
Entering Pattern  G-Fuel Pumps On
G-Fuel Selectors Main
Midfield  U-Check under 140 MPH, Gear Down, Gear Light, Mirror
Abeam Touchdown  -15” MP
M – Mixtures Fwd
P – Props Fwd
Under 125 MPH  Flaps 3 sec.
Pitch  115 MPH
Base Turn  Flaps 3 sec.
110 MPH
Final turn  105 MPH then 90 MPH
Cowl Flaps  Open
Gumps Check  Complete

SHORT FIELD TAKE OFF
Flaps  Half
Timer  Start
Brakes  Hold
Throttles  Full
Engine Instruments  “Engine Instruments Green”
Brakes  Release
65 MPH  Rotate to glare shield above horizon
“Positive Rate”  Tap Brakes & “Gear Up”
Pitch  90 MPH
100’ AGL / Clear of Obst.  Glare shield on horizon
Flaps  Up
Climb out  Normal

SHORT FIELD LANDING
Normal Approach
When Clear of Obstacles  Throttles just above idle
Lower pitch to maintain 90 MPH
Mains Contact Ground          Max Braking (Simulated)
                                Yoke Full back
                                Flaps Up

AFTER LANDING FLOW / CHECKLIST
When clear of runway:
Transponder            STBY
Flaps            Up
Cowl Flaps            Check Open
Mixtures            3
Lights            As required
Fuel Pumps            Off
Trims            Re-set
After landing checklist            Check

INSTRUMENT APPROACH              NP = Non-Precision
                                P = Precision
Approach            Brief
Outboard Leg            21” MP
When cleared for approach Right landing light on, also left on if non-towered field
Turning inbound            18” MP
                          Pre-Maneuver Checks
                          Zero Time
Half Mile/Half Dot from FAF15” MP
                          Gear Down
FAF / GS Intercept            12” MP for NP, 14” MP for P
                          Flaps 3 sec.
                          Pitch down
                          Start time
                          Radio Call
Cleared to Land            Left Landing Light On
                          105 MPH
                          700-800 FPM – NP
GUMPS Check            Complete
NP – 100’ before MDA            Throttles 18”
                          Slow descent to MDA

MISSED APPROACH
At MAP
Throttles        Full
Pitch        7-8 degrees up
“Positive Rate” “Gear Up”
Flaps        UP
GPS            SUSP and GPS Nav
At initial alt            Turn on Course
Landing Lts        Off
At 400’ AGL
Report to ATC
25” MP/2500 RPM/Fuel pumps off
“Missed approach”

ENGINE OUT BEFORE VR
Anything not right prior to Vr
- Throttle: Close
- Brakes: As required
- Directional Control: Maintain
- Yoke: Back
- Flaps: Retract
Announce to ATC: Aborted Takeoff on Runway ___

ENGINE OUT MEMORY STEMS
“Fly the Airplane”
“Mixtures Forward”
“Props Forward”
“Throttles Forward”
“Gear Up”
“Flaps Up”
“Fuel Pumps On”
“Check Mags”
“Check Fuel Selectors”
“Identify Right (or left) Engine.”
“Verify Right (or left) Engine”
“Feather Right (or left) engine”
“Trim”
“Shut down checklist.”
Declare emergency

ENGINE OUT AFTER VR BEFORE CRUISE CLIMB
“Fly the Airplane”
Continue memory items starting w/ ‘Identify’.
Return to Airport for Landing

ENGINE OUT AFTER CRUISE CLIMB
Memory Items
Land as soon as practicable
Crossfeed if more than 30 min to landing

Engine Out in Descent or Approach
Memory Items except throttles at 25” MP (normal plus 4”)
Land as soon as practicable
**Single Engine Landing**
Memory Items except increase MP on good engine by 4”
Normal landing profile

**Vmc Demo**

<table>
<thead>
<tr>
<th>Pre Maneuver Checks</th>
<th>Complete</th>
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<tbody>
<tr>
<td>Throttle</td>
<td>Reduce 3” at a time</td>
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<tr>
<td>At 120 MPH</td>
<td>Close Left Throttle</td>
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<tr>
<td></td>
<td>Full Right Throttle</td>
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<tr>
<td></td>
<td>Right Rudder as needed</td>
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<td></td>
<td>5 degrees right bank</td>
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<td></td>
<td>Slowly pitch up</td>
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</tbody>
</table>

Stall or loss of directional control:
- Lower pitch below horizon
- Reduce right throttle to 1/2

Accelerating through Vmc:
- Full right throttle
- Right rudder
- Raise pitch to Vyse
Cessna 172 - N950ME, N80398, N26502, N2100S, N16789
Normal VFR Traffic Pattern

45° entry/level at TPA -
90 KIAS
~ 2,000 RPM

Abeam TD -
1,500 RPM
Flaps 10°
80 KIAS

Base -
Flaps 20°
70 KIAS

Final App -
Flaps 30°
65 KIAS

Rotate - 60 KIAS
Climb - 80 KIAS