

## GROUND USE ONLY

### Steep Turns

1. Perform two 90° clearing turns
2. 90 KIAS (\*2000 RPM) maintain altitude
3. Cruise configuration flow
4. Roll into 45° bank (private, at least 50° for commercial)
5. Maintain altitude and airspeed  
(+ back pressure, + approx. 1-200 RPM)
6. Roll out ½ bank angle prior to entry heading
7. Clear traffic and roll in opposite direction
8. Roll out ½ bank angle prior to entry heading
9. Cruise checklist

### Slow Flight

1. Perform two 90° clearing turns
2. \*1500 RPM (maintain altitude)
3. Landing configuration flow
4. Maintain altitude - slow to just above a stall
5. Power as required to maintain airspeed
6. Accomplish level flight, climbs, turns, and descents as required  
(ATP - max 30° bank)
7. Recover – full power/maintain altitude/reduce flaps
8. Above  $V_x$ , reduce flaps to 0°
9. Cruise checklist

### Power-Off Stall

*See Policies and Procedures — Stalls*

1. Perform two 90° clearing turns
2. \*1500 RPM (maintain altitude)
3. Landing configuration flow
4. Stabilized descent at 65 KIAS
5. Throttle idle (**Slowly**)
6. Wings level or up to 20° bank as assigned
7. Pitch to maintain altitude (**Slowly**)
8. At stall/buffet (as required) recover – reduce AOA - full power
9. Reduce flaps to 10°
10. Accelerate to 60 KIAS ( $V_x$ ), positive rate, reduce flaps to 0°
11. Cruise checklist

### Power-On Stall

*See Policies and Procedures — Stalls*

1. Perform two 90° clearing turns
2. \*1500 RPM (maintain altitude)
3. Clean configuration
4. At 60 KIAS, simultaneously increase pitch (**Slowly**) and apply full power
5. **Slowly** increase pitch to induce stall/buffet (approx 15°)
6. At stall/buffet (as required) recover – reduce AOA - full power
7. Cruise checklist

## GROUND USE ONLY

### Soft-Field Take Off

1. Flaps 10°
2. Roll onto runway with full aft yoke – minimum braking – do not stop
3. Smoothly apply full power
4. As nose lifts off, ease back pressure (nose wheel must remain off the ground)
5. Lift off at lowest possible airspeed – **remain in ground effect**
6. **In ground effect** – accelerate to 60 KIAS (V<sub>X</sub>) – begin climb
7. Accelerate to 79 KIAS (V<sub>Y</sub>)
8. At safe altitude, retract flaps
9. After takeoff checklist

### Soft-Field Landing

1. Complete the “Approach Checklist” before entering the airport area; devote full attention to aircraft control and traffic avoidance.
2. Slow to 85 KIAS prior to entering downwind or traffic pattern.
3. Enter the traffic pattern at published TPA (typically 1000' AGL).
4. Complete the “Before Landing Checklist” when established on downwind.
5. When abeam touchdown point, on extended base, or on extended final (when ready to descend out of pattern altitude):  
Reduce power to approx. 1500 RPM and select flaps 10°.
6. Descend out of TPA at 75 KIAS.
7. Select flaps 20° and slow to 70 KIAS on base leg.
8. Select flaps 30° and slow to 65 KIAS on final when landing is assured.
9. Fly the airplane onto the ground, slowly transferring the weight from the wings to the main landing gear.
10. Touch down on intended touchdown point at minimum speed with a nose-high pitch attitude.
11. Keep the nosewheel off the ground as airplane slows by increasing elevator pressure.
12. Prevent nosewheel from rapidly falling by maintaining aft elevator pressure.

### Clean Configuration Flow

Fuel Selector - Both  
Mixture - Enrichen  
Flaps 0°

### Short-Field Take Off

1. Flaps 10°
2. Use all available runway
3. Hold brakes
4. Full throttle
5. At full power – release brakes
6. Rotate to climb at 57 KIAS over 50' obstacle
7. When clear obstacle, accelerate to V<sub>Y</sub>
8. Flaps 0°
9. After takeoff checklist

### Short-Field Landing

1. Complete the “Approach Checklist” before entering the airport area; devote full attention to aircraft control and traffic avoidance.
2. Slow to 85 KIAS prior to entering downwind or traffic pattern.
3. Enter the traffic pattern at published TPA (typically 1000' AGL).
4. Complete the “Before Landing Checklist” when established on downwind.
5. When abeam touchdown point, on extended base, or on extended final (when ready to descend out of pattern altitude):  
Reduce power to approx. 1500 RPM and select flaps 10°.
6. Descend out of TPA at 75 KIAS.
7. Select flaps 20° and slow to 70 KIAS on base leg.
8. Select flaps FULL and slow to 62 KIAS on final when landing is assured.
9. Close throttle slowly during flare – touch down on intended touchdown point with little or no floating.
10. Prevent nosewheel from slamming onto the runway.
11. Retract the flaps after touchdown.
12. Simulate and announce “Max Braking” for training and checkride purposes.

### Landing Configuration Flow

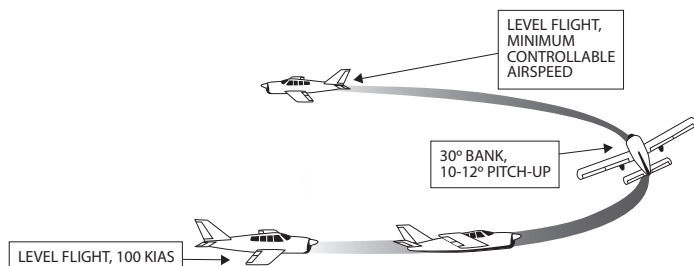
Fuel Selector - Both  
Mixture - Enrichen  
Carb Heat - On (Carbureted Models)  
Flaps - Full

\* Configuration and throttle settings based on 160 HP R-Model 172. May vary based on specific airplane and prevailing conditions. Do not use procedures listed above without referencing the full procedures described in the approved Operators Manual or POH/AFM specific to the airplane you are flying. This guide is to be used as a reference only. ATP assumes no responsibility or liability for any errors or inaccuracies that may appear on this guide and it is not intended to replace the approved POH/AFM or FAA approved publications and procedures.

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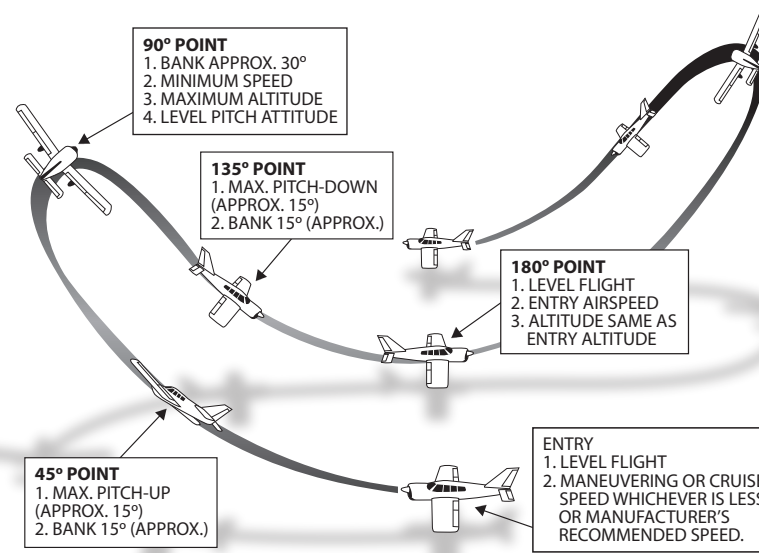
### Chandelles (Commercial & CFI)

1. Perform two 90° clearing turns
2. 100 KIAS (\*2200 RPM) maintain altitude
3. Clean configuration flow
4. Choose a reference point off wing
5. Establish / maintain 30° bank
6. Full Throttle - Increase pitch to attain approx. 10-12° pitch up at 90° point  
1st 90° of turn, Bank = constant 30°, Pitch = increasing to 10-12° pitch up
7. 90° point - maintain pitch - reduce bank angle to attain level flight at 180° point  
2nd 90° of turn, Pitch = constant 10-12° pitch up,  
Bank = decreasing to level flight
8. 180° point - wings level - minimum controllable airspeed
9. Accelerate while maintaining level flight
10. Cruise checklist



### Lazy Eights (Commercial & CFI)

1. Perform two 90° clearing turns
2. 100 KIAS (\*2200 RPM) maintain altitude
3. Clean configuration flow
4. Choose a reference point off of the wing
5. Simultaneously increase pitch and bank (SLOWLY)
6. 45° point – 15° pitch up and 15° bank
7. Reduce pitch / increase bank
8. 90° point – level pitch - 30° bank
9. Continue reducing pitch and reduce bank
10. 135° point - 15° pitch down - 15° bank
11. 180° point – level flight – entry airspeed and altitude
12. Repeat in opposite direction
13. Cruise checklist

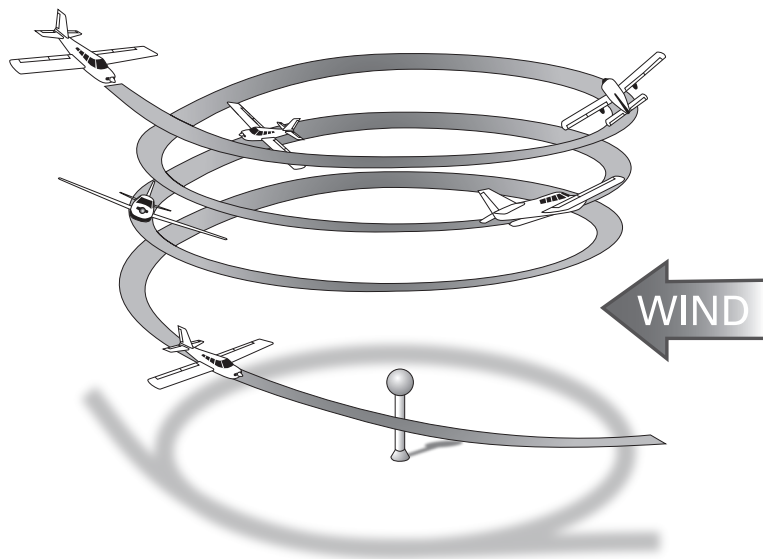


## GROUND USE ONLY

### Steep Spirals (Commercial & CFI)

1. Altitude – at least 3000' AGL
2. Perform two 90° clearing turns
3. 80 KIAS (\*1700 RPM) maintain altitude
4. Clean configuration flow
5. Choose visual reference point
6. Reduce throttle to idle
7. Track at least three constant radius circles around reference point
8. Airspeed - constant
9. Bank angle – adjust for winds – not to exceed 60°
10. Clear engine once every 360° turn
11. Recover - roll out on specified heading (visual reference)
12. Adjust DG/HSI to compass
13. Cruise checklist

Note: The DG/HSI will precess during this maneuver. Rely on visual references.



### Eights On Pylons (Commercial & CFI)

1. Enter pivotal altitude (Approx 900' AGL at 100 KIAS - \*2200 RPM)
2. Perform two 90° clearing turns
3. Clean configuration flow
4. Select two pylons to allow for minimal time spent wings level between the two
5. Enter maneuver on a 45° midpoint downwind
6. Apply appropriate pitch corrections to compensate for changes in groundspeed and;
7. To maintain line of sight reference with the pylon (pitch forward if point moves toward nose and pitch back if point moves toward tail).
8. Begin rollout to allow the airplane to proceed diagonally between the pylons at a 45° angle.
9. Begin second turn in the opposite direction of the first
10. Exit maneuver on entry heading
11. Cruise checklist

