LAZY EIGHT

OBJECTIVE

To teach the commercial student the knowledge of the elements related to lazy eights.

COMPLETION STANDARDS

1. Selects an altitude that will allow the task to be performed no lower than 1,500 feet AGL (460 meters).
2. Establishes the recommended entry configuration, power, and airspeed.
3. Maintains coordinated flight throughout the maneuver.
4. Achieves the following throughout the task —
   a. approximately 30° bank at the steepest point.
   b. constant change of pitch and roll rate.
   c. altitude tolerance at 180° points, ±100 feet (30 meters) from entry altitude.
   d. airspeed tolerance at the 180° point ±10 knots from entry airspeed.
   e. heading tolerance at the 180° point ±10°.
5. Continues the maneuver throughout the number of symmetrical loops specified and resumes straight-and-level flight.

DESCRIPTION

Two 180° turns, in opposite directions, while making a climb and descent in a symmetrical pattern during each of the turns.

PROCEDURE

1. Clear the area.
2. Establish entry airspeed and configuration.
3. Select reference points
   a. off both wing tips.
   b. at the 45° and 135° points.
4. Begin a gradual climbing turn in the direction of the 45° reference point. Plan a climbing turn so that, at the 45° reference point, the airplane is at its maximum pitch attitude, and approximately one-half the bank angle (15°).
5. The bank angle should continue to increase until it reaches a maximum (30°) at the 90° reference point. Simultaneously, the pitch attitude should slowly decrease.

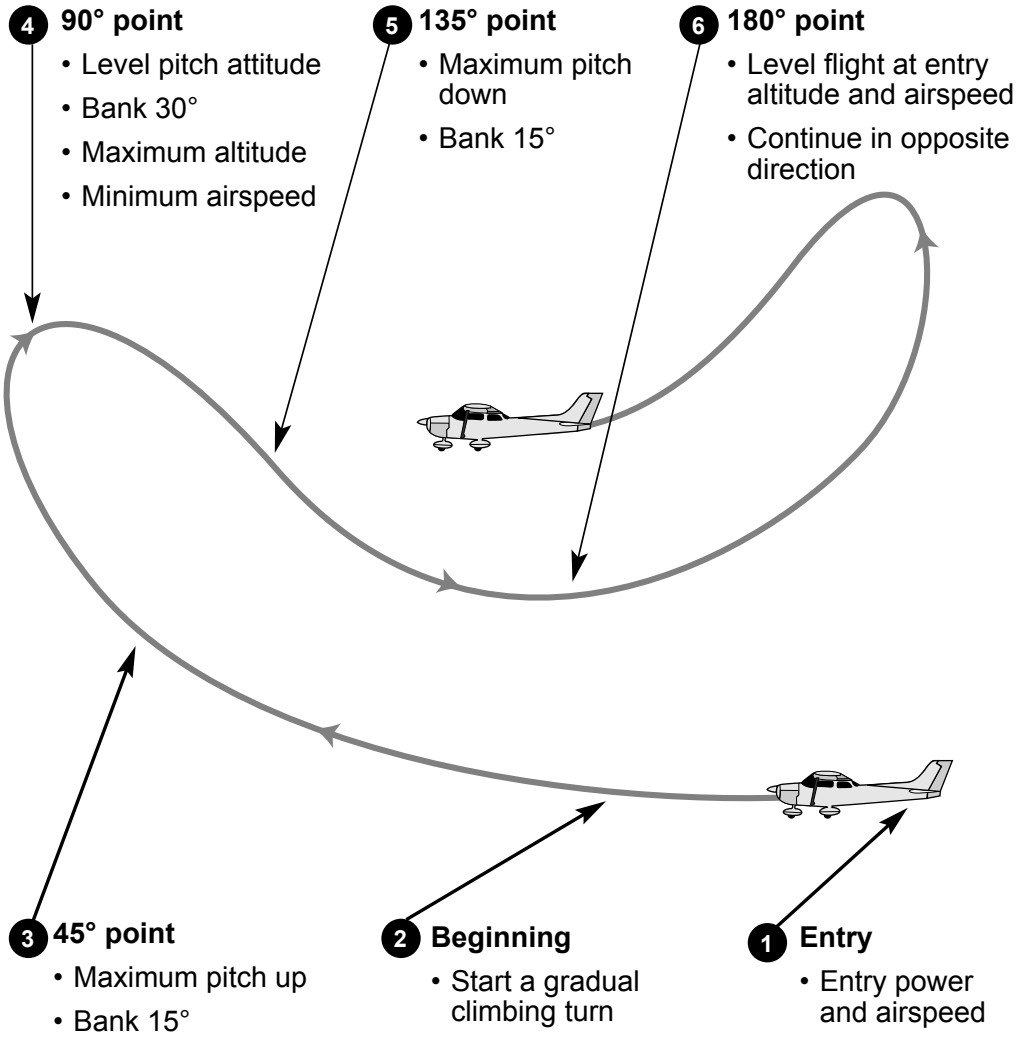
6. The airspeed should be within 5-10 knots of stall speed.
7. As the airplane passes through the 90° point, the pitch attitude passes through the level flight and continues to decrease as a gradual roll out of the bank angle is initiated.
8. Both the pitch attitude and the bank angle continue to decrease so that, at the 135° point, the pitch attitude reaches its lowest point and approximately one-half the bank angle (15°) remains.
9. As the airplane passes through the 135° point, the roll out is continued and the pitch attitude is slowly increased. Thus, the airplane returns to straight and level flight at the entry altitude and airspeed as the airplane reaches the 180° point.
10. Continue immediately into a similar turn in the opposite direction.

Note: The maneuver should be done into the prevailing wind to avoid drifting out of the practice area.

References

Commercial Pilot Practical Test Standards FAA-S-8081-12B, pg. 1-24.
Airplane Flying Handbook FAA-H-8083-3, pg. 9-6 ½ 9-8.

LAZY EIGHT



Note — bank and pitch constantly change, power is fixed

AIRCRAFT	ENTRY AIRSPEED	POWER
C172	95	2300

Commercial Limitations — Altitude ±100 feet from entry altitude at the 180° point
Airspeed ±10 knots from entry airspeed at the 180° point
Heading ±10° from entry heading at the 180° point