

Ground Reference Maneuvers – Standard Operating Procedure

Southwest Practice area

1. West of I-10 (Greenfield / North Test Track)
2. East of I-10 (Aerobatic Areas / Sun Lakes)
3. Stay under class B (6000 MSL) Around Maricopa
4. Make announcements: (Southwest practice area, Skyhawk, Over the greenfields at xxxx feet heading xxxx, Student Pilot, Southwest practice area)

Power-off Stalls

1. **Pre Maneuver Checklist**
2. Hold 4500 MSL (3200 AGL)
3. 2 or 3 notches of flaps while holding 4500 MSL
4. Slow airspeed to 70-80 knots while holding 4500 MSL
5. Hold 70-80 knots and lose 200 feet (to 4300 MSL) ← Stabilized descent
6. Power to idle and pitch 5 degrees about the horizon
7. As airspeed decreases, add right rudder to hold heading
8. Recovery:
 - a. Carb heat in
 - b. Full available power
 - c. Remove one notch of flap
 - d. As airspeed increases, flaps 0
 - e. Climb to original altitude and return to cruising speed unless otherwise directed

Power-on Stalls

1. **Pre Maneuver Checklist**
2. Hold 4500 MSL (3200 AGL)
3. Clean configuration
4. Slow airspeed to 70-75 knots while holding 4500 MSL
5. Add full available power and pitch 10 degrees above the horizon ← **Hold heading or outside reference**
6. As airspeed decreases, add right rudder to hold heading and remain coordinated
7. Recovery
 - a. Lower the pitch to normal climb attitude
 - b. Return to altitude and cruising airspeed unless otherwise directed

Steep Turns (45 degrees)

1. Clearing turns / announcement
2. Hold 5300 MSL (4000 AGL)
3. Initial turn to the left 30-degrees, (smidge) of power, then increase to 45-degrees. Use 3 full turns of trim.
4. Second turn to the right, 30-degrees, (smidge) of power, then increase to 45-degrees. Use 4 turns of trim.
5. Should hit your own wake turbulence
6. Goal is to maintain a 45 degree bank while maintaining 5300MSL. Remember to pick a suitable high landmark and reference your heading indicator to that.

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Turns Around a Point

1. Pre Maneuver Checklist
2. Configure 2300 MSL (1000 AGL), 80-90 knots, enter on the downwind (note winds), pick a **GOOD reference point and note the groundspeed**
3. First turn will be the steepest, the second less steep, and the third shallow.
4. Count. Keep a continuous bank.
5. Standards: 2 perfect circles, explaining the procedures (Steepest, less steep, then shallow)
6. Exit on the downwind.

Evaluation criteria: aircraft control, traffic avoidance, and ground track

S-Turns

1. Pre Maneuver Checklist
2. Configure 2300 MSL (1000 AGL), 80-90 knots, enter on the downwind (note winds), pick a **GOOD reference point and note the groundspeed**. Begin the turn to the left.
3. First turn will be steepest, then less steep, then shallow (with actual winds). Do not bank 30 on the initial turn. Standard rate will be enough with no wind conditions.
4. Standards: 2 perfect half circles, explaining the procedures. (Steepest, less steep, then shallow)
5. Exit on the downwind.

Evaluation criteria: aircraft control, traffic avoidance, and ground track

