PIPER Seminole MANEUVER GUIDE

Disclaimer: This guide is to be used as reference only and does not preclude checklist usage, pilot operating handbook or flight instruction

Revision 1.5 Updates:

Accelerated Stall:

- No longer missing
- Specified climb out on recovery

Emergency Descent:

- Added ACS standards
- Specified when to open and close cowl flaps
- Added suggestion for level off technique

Single Engine Approach to Land:

- Flaps 25° when landing is assured

General Formatting Corrections

- Layout spacing below ACS standards = 4pt

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4700 Airport Parkway
Addison, Texas 75001
972.735.9099

Normal Takeoff (Short Field)	Callouts
1. *Takeoff Checklist*	
2. Perform radio communications	
3. Line-up on runway	Verbalize *"Runway 17L"*
4. Smoothly advance full power	
5. Verify 2700 RPM and engine instruments green	*"Gauges green, airspeed alive"*
6. Rotate at **75 KIAS (70 KIAS)**	
7. With *positive rate*; Tap brakes, gear up	*"Positive rate, gear up"*
8. Accelerate and climb at **90 KIAS**	
9. At 500' AGL: Set cruise climb = **25"MP | 2500RPM**	
10. Adjust pitch to climb at **90 – 105 KIAS**	
11. Perform *Climb/Cruise Checklist* when appropriate	

Private Standards	Airspeed: -5/+10 KIAS
Commercial Standards	Airspeed: ±5 KIAS

Normal Landing (Short Field)	Callouts
1. Complete *Descent Checklist* prior to pattern entry	
2. 5NM from pattern: **20" MP | 2500RPM**	
3. Complete *Landing Checklist* = **G.U.M.P.S**	**"**3 green. One in the mirror. Verify?"
4. Abeam TD point: **15" MP; Flaps 10°;** Pitch **100 KIAS**	
5. Base: **Flaps 25°;** Pitch + trim **85 KIAS;** Verify **G.U.M.P.S**	**"**3 green. One in the mirror. Verify?"
6. Final: **Flaps 40°;** Pitch + trim **75 KIAS (70 KIAS)**	
7. Verify *Landing Checklist* = **G.U.M.P.S**	**"**Props full on final. + 3 green…"
8. 200' AGL: make stability call	**"**Stable"
9. Close throttle prior to touchdown, maintain positive pitch	

Private Standards	Airspeed: -5/+10 KIAS TD Point: -0/+400 FT
Commercial Standards	Airspeed: ±5 KIAS TD Point: -0/+200 FT

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One Engine Inoperative Pattern

1. Simulate engine failure on upwind or crosswind
2. Perform ***Engine Failure Flow*** while maintaining **Blue Line** (**88 KIAS**) + directional control
3. Simulate "feather" on inoperative engine's prop/mixture (MEI/DPE will simulate zero thrust)
4. Turn Crosswind/downwind
5. Maintain full throttle on operating engine and **Blue Line** (**88 KIAS**) until reaching TPA
6. **Abeam** landing point: **Throttle 17" MP**; **Gear down**; **Flaps 10°** (Pitch 100 KIAS and ~500fpm)
7. Complete *Landing Checklist* = **G.U.M.P.S**
8. **Base:** slow to **90 KIAS** (Do not slow below **Blue Line**)
9. Verify *Landing Checklist* = **G.U.M.P.S**
10. **Fina**l: **Flaps 25°**; adjust power for 90 KIAS; Ask MEI/DPE when both throttles are back
11. Maintain **Blue Line** (**88 KIAS**) **until landing is assured**
12. Reduce power smoothly when landing is assured

Private and Commercial Standards	Airspeed: ±5 KAIS Altitude: ±100 FT (or best at V_{YSE}) Heading: ±10° Touchdown: First 1/3 of runway

Steep Turns

1. Perform ***Pre-Maneuver Checklist***
2. Mixtures set
3. Throttles **20" MP**
4. Props **2500 RPM**
5. Trim appropriately; Select visual reference
6. Roll into bank (45° Private, 50° Commercial)
7. Increase **throttles to 22" MP**
8. Maintain altitude and bank angle
9. 15° prior to entry heading, begin roll out swiftly and smoothly into opposite direction turn
10. Begin roll out swiftly and smoothly 15° prior to exit heading; Throttles **20" MP**
11. Perform *Cruise Checklist* when appropriate

Thrust Master Tip:

5° pitch = climb

2.5° pitch = roughly level

0° = descend

Private and Commercial Standards	Airspeed: ±10 KAIS Altitude: ±100 FT Bank: ±5° Heading: ±10°

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Slow Flight

1. Perform ***Pre-Maneuver Checklist***
2. Mixtures set
3. Throttles **15" MP**
4. Props **full forward**
5. Gear **down** (below 140 KIAS)
6. Pitch to maintain altitude (check heading)
7. Flaps 10° (below 111 KIAS); Check altitude and heading
8. Flaps 25°; Check altitude and heading
9. Flaps 40°; Check altitude and heading
10. Slow to **60 KIAS** (pitch for airspeed, power for altitude)

Thrust Master Tip:

Approx 17" – 18"MP + 7.5° pitch up for stable and level flight at ~ 63KIAS

Use a lot of up trim as you slow

Recovery

11. Simultaneously: Nose level + Throttle full
12. Flaps 25° (stable); Flaps 10° (stable); Gear up
13. Accelerate to **Blue Line** (**88 KIAS**); Flaps 0°
14. Perform *Cruise Checklist* when appropriate

Recovery Memory Aid:

"Flap, Flap, Gear, 88, Positive, Flap"

Private Standards	Airspeed: -0/+10 KIAS Altitude: ±100 FT Heading: ±10° Specified Bank: ±10° Complete no lower than 3000' AGL
Commercial Standards	Airspeed: -0/+5 KIAS Altitude: ±50 FT Heading: ±10° Specified Bank: ±5° Complete no lower than 3000' AGL

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Power-Off Stall (Stall can be to first indication or full)

1. Perform ***Pre-Maneuver Checklist***
2. Mixtures set
3. Throttles **15" MP**
4. Props **full forward**
5. Gear **down** (below 140 KIAS)
6. Pitch to maintain altitude (check heading)
7. Flaps 10° (below 111 KIAS); Check altitude and heading
8. Flaps 25°; Check altitude and heading
9. Flaps 40°; Check altitude and heading
10. Initiate landing descent (~75 KIAS and ~500 FPM)
11. Power Idle; Flare to land (~10° up); Hold until first stall indication (CAX)

Recovery

12. Simultaneously: Nose level + Throttle full
13. Flaps 25° (stable); Flaps 10° (stable); Gear up
14. Accelerate to **Blue Line** (**88 KIAS**); Pitch up to maintain **Blue Line**
15. Positive trend = Flaps 0°; continue climb @ **Blue Line** up to starting altitude
16. Perform *Cruise Checklist* when appropriate

Recovery Memory Aid:
"Flap, Flap, Gear, 88, Positive, Flap"

Private Standards	Heading: ±10° Specified Bank (if any): ±10° Complete no lower than 3000' AGL
Commercial Standards	Heading: ±10° Specified Bank (if any): ±5° Complete no lower than 3000' AGL

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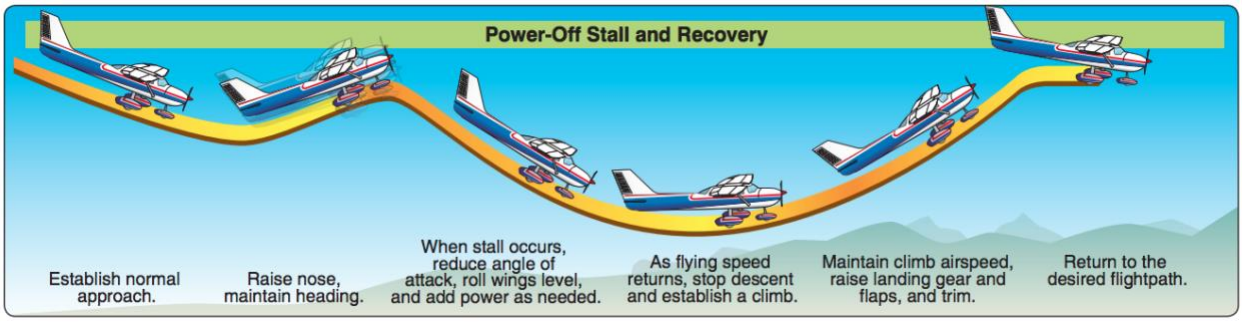
Power-On Stall (Stall can be to first indication or full)

1. Perform ***Pre-Maneuver Checklist***
2. Mixtures set
3. Throttles **14" MP**
4. Props **full forward**
5. Slow to **Blue Line** (**88 KIAS**)
6. Increase throttle to **17" MP**
7. Increase pitch to stall (approx. 20-25°); Hold until stall

Recovery

8. Simultaneously: Nose level + Throttle full
9. Pitch for **Blue Line** (**88 KIAS**) and initiate climb
10. Perform *Cruise Checklist* when appropriate



Private Standards	Heading: ±10° Specified Bank (if any): ±10° Complete no lower than 3000' AGL
Commercial Standards	Heading: ±10° Specified Bank (if any): ±5° Complete no lower than 3000' AGL

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V_{MC} Demonstration (Must be performed above 4000'AGL per POH)

1. Perform ***Pre-Maneuver Checklist***
2. Left cowl flap closed
3. Mixtures set
4. Throttles 15" MP
5. Props full forward
6. Slowly reduce left throttle to idle
7. Establish zero side slip (up to 5° bank) and maintain directional control (heading)
8. Adjust trim as needed
9. Slow to **Blue Line** (**88 KIAS**)
10. Right throttle smoothy to full power (Leave hand on this throttle)
11. Increase pitch as to decrease airspeed 1 knot per second (up to ~15°)
12. Apply right rudder as necessary to maintain heading
13. Continue increasing pitch until stall horn, buffet, or loss of directional control

Recovery

1. Simultaneously: relax back pressure, bring nose to ~5° below horizon, and reduce power on operative engine.
2. Increase throttle on operative engine to accelerate to **Blue Line** (**88 KIAS**)
3. Maintain **Blue Line** (**88 KIAS**) while establishing zero side slip and directional control
4. Verify CHT in green; Cowl flaps open; Synchronize throttles
5. Perform *Cruise Checklist* when appropriate

Private Standards	Recovery Airspeed: V_{YSE} +10/-5 KAIS Recovery Heading: ±20°
Commercial Standards	Recovery Airspeed: V_{YSE} ±5 KAIS Recovery Heading: ±20°

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Accelerated Stall

1. Perform ***Pre-Maneuver Checklist***
2. Mixtures set
3. Throttles **idle**
4. Props **full forward**
5. Slow to below **V_A (115 KIAS)**
6. Power Idle; Bank to **45°** and add extensive back pressure
7. At first indication: **Reduce AoA; Level wings: SMOOTHLY apply full power**
   Execute sequentially: Nose level. -> Wings Level. -> Full Power
8. Pitch for **Blue Line** (**88 KIAS**) and initiate climb
9. Perform *Cruise Checklist* when appropriate

Commercial Standards	Complete no lower than 3000' AGL

Emergency Descent

1. Perform ***Pre-Maneuver Checklist***
2. Cowl flaps closed
3. Mixtures **full** (If above 5000' MSL, adjust in descent)
4. Throttles **SMOOTHLY** closed
5. Props **SMOOTHLY** full forward
6. Gear **down** (below 140 KIAS)
7. Pitch to maintain 120 – 140 KIAS
8. Pitch up slowly to level and reduce airspeed (Suggested: Throttles ~15" MP)
9. **Below 109 KIAS:** gear up + cowl flaps **open**
10. Throttles **SMOOTHLY** to cruise
11. Perform *Cruise Checklist* when appropriate

Private Standards	Bank Angle: Between 30° and 45° Appropriate Airspeed: V_{YSE} +0/-10 KAIS Specified Altitude: ±100°
Commercial Standards	Bank Angle: Between 30° and 45° Appropriate Airspeed: V_{YSE} +0/-10 KAIS Specified Altitude: ±100°

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Precision Approach

1. Enroute: Build approach; Brief approach; Verify NAV aids and instruments
2. **5NM** from FAF: Throttles **20" MP;** Props **2500RPM; Cowl flaps open**
3. **2** dot glideslope deflection: Complete *Landing Checklist* = **G.U.M.P.S** (props full when visual)
4. **1** dot glideslope deflection: **Flaps 10°**
5. **Top of descent:** Throttles **15" MP;** Pitch **100 KIAS**
6. Verify *Landing Checklist* = **G.U.M.P.S**
7. Announce **300'** from DA/MDA
8. Verify *Landing Checklist* = **G.U.M.P.S (props full forward on final)**
9. If visual = follow glideslope down to runway
10. Set flaps as required on final (no more than 25° in training)
11. Reduce power smoothly when landing is assured

If OEI

13. Perform ***Engine Failure in Flight Checklist***
14. Maintain assigned altitude with at least **Blue Line** (**88 KIAS**)
15. At top of descent (Glideslope intercept and/or FAF): **Throttle 17" MP**; **Gear down**; **Flaps 10°**
16. Descend at **90 KIAS** and slightly above glideslope
17. Complete *Landing Checklist* = **G.U.M.P.S**
18. Announce **300'** from DA/MDA
19. Verify *Landing Checklist* = **G.U.M.P.S**
20. Announce DA/MDA
21. If visual and **landing assured** = **Flaps 25°**; Maintain **Blue Line** (**88 KIAS**)
22. Follow glideslope down to runway
23. Reduce power smoothly when landing is assured

Private and Commercial Standards	Airspeed: ±10 KAIS Altitude: ±100 FT (-0 at minimums) Course: < ¾ scale deflection Heading: ±10°

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Non-Precision Approach

1. Enroute: Build approach; Brief approach; Verify NAV aids and instruments
2. **5NM** from FAF: Throttles **20" MP;** Props **2500RPM; Cowl flaps open**
3. **2NM** from FAF: Complete *Landing Checklist* = **G.U.M.P.S** (props full when visual)
4. **1NM** from FAF: deflection: **Flaps 10°**
5. **Top of descent:** Throttles **15" MP;** Pitch **100 KIAS**
6. Verify *Landing Checklist* = **G.U.M.P.S**
7. Announce **300'** from DA/MDA
8. Verify *Landing Checklist* = **G.U.M.P.S (props full forward on final)**
9. If visual = follow glideslope down to runway
10. Set flaps as required on final (no more than 25° in training)
11. Reduce power smoothly when landing is assured

If OEI:

1. Perform ***Engine Failure in Flight Checklist***
2. Maintain assigned altitude with at least **Blue Line** (**88 KIAS**)
3. At top of descent (Glideslope intercept and/or FAF): **Throttle 17" MP**; **Gear down**; **Flaps 10°**
4. Descend at **90 KIAS** and slightly above glideslope
5. Complete *Landing Checklist* = **G.U.M.P.S**
6. Announce **300'** from DA/MDA
7. Verify *Landing Checklist* = **G.U.M.P.S**
8. Announce DA/MDA
9. If visual and **landing assured** = **Flaps 25°**; Maintain **Blue Line** (**88 KIAS**)
10. Follow glideslope down to runway
11. Reduce power smoothly when landing is assured

Private and Commercial Standards	Airspeed: ±10 KAIS Altitude: ±100 FT (-0 at minimums) Course: < ¾ scale deflection Heading: ±10°

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Drag Demo (MEI Only)

1. Perform ***Pre-Maneuver Checklist***
2. Left cowl flap closed
3. Mixtures set
4. Throttles 15” MP
5. Props full forward

Worst Case Scenario (Most Drag):

6. Slowly reduce left throttle to idle
7. Establish zero side slip (up to 5° bank) and maintain directional control (heading)
8. Adjust trim as needed
9. Slow to **Blue Line** (**88 KIAS**)
10. Right throttle smoothy to full power (Leave hand on this throttle)
11. Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable
12. Gear down (below 140 KIAS); Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable
13. Incrementally add: flaps 10° (below 111 KIAS), flaps 25°, and flaps 40°
14. Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable

Best Case Scenario (Least Drag):

15. Gear up (below 109 KIAS); Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable
16. Incrementally retract: flaps 25°, flaps 10°, and flaps 0°; Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable
17. Throttle to 12” MP on inop engine (simulated feather); Pitch to maintain **Blue Line** (**88 KIAS**)
    Note VSI once stable

Various Airspeeds:

18. Pitch for V_{XSE} (82 KIAS)
    Note VSI once stable
19. Pitch for **Blue Line** + 12 KIAS (100 KIAS)
    Note VSI once stable

Recovery:

20. Throttle 15” MP on left engine until CHT verified green
21. Cowl flaps open
22. Perform *Cruise Checklist* when appropriate

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