

FLIGHT 13 — STABILITY (carried over from FT-12): cards 13-1 to 13-3

N997CZ RV-10 — **Flight 13** Phase 1 test cards, renumbered 13-1..13-8 in fly order. EAA Flight-Advisor Script+Card format (portrait, one card per two pages: briefing SCRIPT then the cut-out CARD). Conservative: mid/fwd CG, generous floors. Cards 13-2/13-3 are the two FT-12 stability maneuvers not reached on Flight 12 (sideslips, spiral); 13-4..13-8 are the stall series. Built 2026-06-07.

Pre-Maneuver / Area Set-Up

FT-13-1 — SCRIPT (briefing) · FLIGHT 13 — STABILITY (carried over from FT-12): cards 13-1 to 13-3

Purpose

- Establish a safe, repeatable test block before the FT-13 stability maneuvers. Same block used for cards 13-2 and 13-3.

Pre-conditions

- Day VMC, smooth air, ceiling/vis $\geq 5,000 / 5$.
- Loaded MID-to-FORWARD CG (record actual). NOT aft CG this sortie.
- Working CO detector ON (slow speeds reached in 13-2 sideslips).
- Fuel: adequate on the SELECTED tank; note selector position.

Set-up

- Climb to test block: enter maneuvers AT OR ABOVE 7,500 ft MSL.
- Hard floor: recover/terminate ALL maneuvers BY 5,000 ft MSL.
- Clear the area: two 90° clearing turns; note traffic/ground refs.
- Stabilize wings-level, mixture set, engine instruments green.
- Record OAT, pressure alt, weight/CG, fuel state on the card.

If anything is unusual

- Unexpected buffet, control force, or trim behavior → relax back-pressure, return to trimmed cruise, knock it off.
- CO ≥ 5 ppm → fresh air, cabin heat OFF, unload, RTB.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-1 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-1	
Date	<input type="text"/>	Time	<input type="text"/>
OAT °F	<input type="text"/>	Wt / CG	<input type="text"/>
Press alt	<input type="text"/>	Wx	<input type="text"/>
Fuel / tank	<input type="text"/>	Page	<input type="text"/>

PRE-MANEUVER / AREA SET-UP

SET-UP (stability blk)

- Wx \geq 5,000/5, smooth, day VMC
- CG MID/FWD — record
- CO detector ON
- Enter \geq 7,500 MSL · floor 5,000 MSL
- 2x 90° clearing turns
- Engine green, mixture set

KNOCK-IT-OFF

- Odd force/buffet/trim → release, re-trim, stop
- CO \geq 5 → air/heat-OFF/unload/RTB

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

Steady-Heading Sideslips

FT-13-2 — SCRIPT (briefing) · FLIGHT 13 — STABILITY (carried over from FT-12): cards 13-1 to 13-3

Objective

- Assess directional/lateral control harmony and stability in sideslip: rudder vs aileron, force build-up, any rudder lock or oscillation.

Config

- Clean, ~90 KIAS, mid CG, power for level flight.

Procedure

- Pick a heading reference. Smoothly add rudder in increments; hold heading constant with opposite aileron (ball deflected).
- Build up SLOWLY: small, then moderate, then toward full rudder — stop early if forces or behavior get unusual.
- At each step note rudder & aileron position/force, bank required, and pitch/airspeed tendency. Hold a few seconds.
- Release controls smoothly — should return to coordinated flight.
- Repeat both directions (left & right sideslip).

Watch

- Rudder-force LIGHTENING or reversal near full deflection (rudder lock), nose hunting, or aileron running out = document & knock it off. Keep speed ≥ 80 KIAS.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-2 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-2	
Date	<input style="width: 150px; height: 20px;" type="text"/>	Time	<input style="width: 150px; height: 20px;" type="text"/>
OAT °F	<input style="width: 150px; height: 20px;" type="text"/>	Wt / CG	<input style="width: 150px; height: 20px;" type="text"/>
Press alt	<input style="width: 150px; height: 20px;" type="text"/>	Wx	<input style="width: 150px; height: 20px;" type="text"/>
Fuel / tank	<input style="width: 150px; height: 20px;" type="text"/>	Page	<input style="width: 150px; height: 20px;" type="text"/>

STEADY-HEADING SIDESLIPS

- Clean · 90 KIAS · level
- Add rudder in steps; hold hdg w/ opp aileron
- BUILD UP slowly toward full — stop if odd
- Note rudder/aileron force & bank each step
- Both directions · keep ≥ 80 KIAS

Record each step

Dir	Rudder	Aileron/bank	Speed/pitch
L small			
L mod			
L max			
R small			
R mod			
R max			

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

Spiral Stability Check

FT-13-3 — SCRIPT (briefing) · FLIGHT 13 — STABILITY (carried over from FT-12): cards 13-1 to 13-3

Objective

- Gauge spiral mode: with a bank established and controls neutralized, does bank hold, slowly roll out, or steepen?

Config

- Clean, ~120 KIAS, power for level flight.

Procedure

- Establish a coordinated 20–30° bank turn.
- Smoothly NEUTRALIZE all controls (hands light / off aileron).
- Over ~20 s observe bank: decreasing (spirally stable), holding (neutral), or increasing (spirally unstable — common & OK if mild).
- Time how long to double bank if it steepens. Recover normally.
- Repeat both directions. Floor 5,000 MSL.

Watch

- If bank steepens quickly, recover promptly — do not let it develop into a steep spiral. Maintain VMC, watch airspeed.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-3 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-3	
Date	<input style="width: 100%;" type="text"/>	Time	<input style="width: 100%;" type="text"/>
OAT °F	<input style="width: 100%;" type="text"/>	Wt / CG	<input style="width: 100%;" type="text"/>
Press alt	<input style="width: 100%;" type="text"/>	Wx	<input style="width: 100%;" type="text"/>
Fuel / tank	<input style="width: 100%;" type="text"/>	Page	<input style="width: 100%;" type="text"/>

SPIRAL STABILITY CHECK

- Clean · 120 KIAS
- Establish 20-30° coordinated bank
- NEUTRALIZE controls (~20 s)
- Bank decreasing / holding / increasing?
- Time-to-double if steepening · both ways

Record

Dir	Start bank	After 20 s	Time-to-double
Left	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
Right	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

N997CZ RV-10 — **Flight 13** Phase 1 test cards, renumbered 13-1..13-8 in fly order. EAA Flight-Advisor Script+Card format (portrait, one card per two pages: briefing SCRIPT then the cut-out CARD). Conservative: mid/fwd CG, generous floors. Cards 13-2/13-3 are the two FT-12 stability maneuvers not reached on Flight 12 (sideslips, spiral); 13-4..13-8 are the stall series. Built 2026-06-07.

Pre-Stall Set-Up & Recovery Brief

FT-13-4 — SCRIPT (briefing) · FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

Purpose

- Common set-up and recovery brief for all FT-13 stall cards. RV-10 is NOT approved for spins — the goal is prompt, positive recovery at the first sign of stall/wing drop.

Pre-conditions

- Day VMC, smooth air, $\geq 5,000 / 5$.
- MID-to-FORWARD CG (record). NOT aft CG this sortie.
- **CO detector ON — slow flight is where cabin CO has appeared (F6-F11). Abort the run if CO ≥ 5 ppm.**
- Seats/belts tight, loose items stowed, mixture appropriate for alt.

Set-up

- Enter every stall AT OR ABOVE 7,500 ft MSL; recover BY 6,000 ft MSL.
- Two 90° clearing turns before EACH run.
- Note OAT, pressure alt, weight/CG, power, flap setting on card.

RECOVERY (memorize)

1. Reduce AoA — stick forward to unstall.
 2. Level wings with RUDDER (avoid aggressive aileron at high AoA).
 3. Add power smoothly as needed.
 4. Recover to climb, minimize altitude loss; do not let it develop.
- Wing drop → opposite rudder + reduce AoA FIRST.

Data to capture (G3X log + notes)

- Type/degree of stall warning · IAS at warning · IAS at break (reads LOW ~2-3 kt) · nose-down pitch · wing-drop direction/magnitude · altitude lost in recovery.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator. Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-4 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-4	
Date	<input type="text"/>	Time	<input type="text"/>
OAT °F	<input type="text"/>	Wt / CG	<input type="text"/>
Press alt	<input type="text"/>	Wx	<input type="text"/>
Fuel / tank	<input type="text"/>	Page	<input type="text"/>

PRE-STALL SET-UP & RECOVERY BRIEF

SET-UP (stall blk)

- Wx \geq 5,000/5, smooth · CG MID/FWD
- CO ON** — abort if \geq 5 ppm
- Enter \geq 7,500 MSL · recover by 6,000
- Clearing turns before EACH run

RECOVERY

- 1 AoA DOWN (stick fwd)
- 2 WINGS LEVEL w/ RUDDER
- 3 POWER as needed
- 4 Min alt loss — don't develop
- Wing drop → opp rudder + unload

LOG

- Warning type/IAS · break IAS · wing drop · alt lost

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

➤ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

1-G Clean Stall — Document the Break

FT-13-5 — SCRIPT (briefing) · FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

Objective

- Capture a full, documented clean 1-g stall: warning, break IAS, behavior, recovery — the clean nose break not yet cleanly recorded (F7 reached buffet, no clean break).

Config

- Flaps UP, power IDLE, wings level, mid CG.

Procedure

- From ~80 KIAS level, smoothly reduce to idle and decelerate at ~1 kt/s, holding altitude with increasing back-pressure.
- Call/note: first aerodynamic warning, then any buffet, then the BREAK (nose drops / uncommanded pitch or roll).
- Recover per FT-13-4 at the break. Note altitude lost.
- Repeat x2 for consistency.

Watch

- Wing drop direction; if it rolls off, rudder to level + unload before aileron. Keep ball centered through the entry.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS \approx IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-5 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-5	
Date	<input style="width: 95%;" type="text"/>	Time	<input style="width: 150px;" type="text"/>
OAT °F	<input style="width: 150px;" type="text"/>	Wt / CG	<input style="width: 150px;" type="text"/>
Press alt	<input style="width: 150px;" type="text"/>	Wx	<input style="width: 150px;" type="text"/>
Fuel / tank	<input style="width: 150px;" type="text"/>	Page	<input style="width: 150px;" type="text"/>

1-G CLEAN STALL — DOCUMENT THE BREAK

- Flaps UP · IDLE · wings level
- Decel ~1 kt/s, hold altitude
- Note: warning → buffet → BREAK
- Recover at break (FT-13-4)
- Repeat x2

Record (x2)

Run	Warn IAS	Break IAS	Wing drop	Alt lost
1	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
2	<input style="width: 100px;" type="text"/>	<input style="width: 100px;" type="text"/>	<input style="width: 100px;" type="text"/>	<input style="width: 100px;" type="text"/>

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

Full-Flap Stall

FT-13-6 — SCRIPT (briefing) · FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

Objective

- Document the landing-config stall: warning margin and break IAS with full flaps, power idle.

Config

- Flaps FULL, power IDLE, wings level, mid CG. Below Vfe 87 KIAS before extending flaps.

Procedure

- Slow below Vfe, extend full flaps, stabilize ~70 KIAS.
- Reduce to idle, decelerate ~1 kt/s holding altitude to the break.
- Recover per FT-13-4; expect lower break IAS than clean.
- On recovery, retract flaps incrementally per normal go-around once positive climb established. Repeat x2.

Watch

- Pitch change with flap retraction; sink. Keep CO in scan.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-6 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-6	
Date	<input style="width: 100%;" type="text"/>	Time	<input style="width: 100%;" type="text"/>
OAT °F	<input style="width: 100%;" type="text"/>	Wt / CG	<input style="width: 100%;" type="text"/>
Press alt	<input style="width: 100%;" type="text"/>	Wx	<input style="width: 100%;" type="text"/>
Fuel / tank	<input style="width: 100%;" type="text"/>	Page	<input style="width: 100%;" type="text"/>

FULL-FLAP STALL

- Below Vfe 87 → FLAPS FULL
- IDLE · wings level · decel ~1 kt/s
- To the BREAK → recover (FT-13-4)
- Flaps up incrementally on go-around
- Repeat x2

Record (x2)

Run	Warn IAS	Break IAS	Wing drop	Alt lost
1	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
2	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

Power-On (Departure) Stall — Build-Up

FT-13-7 — SCRIPT (briefing) · FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

Objective

- Characterize the power-on/departure stall and its wing-drop tendency. BUILD UP power gradually — do not jump to full power on the first run.

Config

- Flaps UP first (then T/O flaps on a later run), mid CG, wings level.

Procedure

- Run A: slow to ~70 KIAS, set ~50% power, raise nose to a climb attitude and continue decel to the break. Recover (FT-13-4).
- Run B: repeat with higher power (build up toward climb power) only if Run A behavior was benign.
- Run C: optional, T/O flap setting, moderate power.
- Expect more pronounced wing drop than idle stalls — lead with rudder, reduce AoA promptly, NO aggressive aileron.

Watch

- Torque/P-factor yaw & wing drop, usually LEFT. Right rudder ready. If it rolls past ~30° or yaws sharply, unload + rudder immediately — do not let it become incipient spin.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-7 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-7	
Date	<input style="width: 150px; height: 20px;" type="text"/>	Time	<input style="width: 150px; height: 20px;" type="text"/>
OAT °F	<input style="width: 150px; height: 20px;" type="text"/>	Wt / CG	<input style="width: 150px; height: 20px;" type="text"/>
Press alt	<input style="width: 150px; height: 20px;" type="text"/>	Wx	<input style="width: 150px; height: 20px;" type="text"/>
Fuel / tank	<input style="width: 150px; height: 20px;" type="text"/>	Page	<input style="width: 150px; height: 20px;" type="text"/>

POWER-ON (DEPARTURE) STALL — BUILD-UP

- Flaps UP · wings level · mid CG
- A: ~70 KIAS, ~50% pwr, climb attitude → break
- B: more power ONLY if A benign
- C (opt): T/O flaps, mod power
- Right rudder ready — lead w/ rudder

IF IT ROLLS/YAWS

- Unload + opposite rudder FIRST
- No aggressive aileron · don't develop

Record

Run	Power	Flaps	Break IAS	Wing drop / yaw
A	~50%	UP		
B	more	UP		
C	mod	T/O		

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

➤ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.

Accelerated / Turning Stall

FT-13-8 — SCRIPT (briefing) · FLIGHT 13 — STALL COMPLETION: cards 13-4 to 13-8

Objective

- Document stall in a moderate banked turn (higher load factor, higher break IAS) and confirm benign recovery.

Config

- Flaps UP, power IDLE (or low), mid CG, 30° bank.

Procedure

- Establish a coordinated 30° bank level turn at ~90 KIAS, idle/low power.
- Smoothly increase back-pressure (~1-2 kt/s) until the break — do NOT exceed 30° bank or pull aggressively.
- Recover per FT-13-4; level wings with rudder first if it rolls.
- Repeat both directions. Note break IAS is higher than 1-g.

Watch

- Over-bank / nose slice at the break, especially toward the low wing. Keep ball centered; unload promptly. Floor 6,000 MSL.

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

→ The cut-out CARD for this maneuver is on the NEXT page.

FT-13-8 — FLIGHT CARD (kneeboard)

N997CZ RV-10 · FLIGHT 13		FT-13-8	
Date	<input style="width: 95%;" type="text"/>	Time	<input style="width: 95%;" type="text"/>
OAT °F	<input style="width: 95%;" type="text"/>	Wt / CG	<input style="width: 95%;" type="text"/>
Press alt	<input style="width: 95%;" type="text"/>	Wx	<input style="width: 95%;" type="text"/>
Fuel / tank	<input style="width: 95%;" type="text"/>	Page	<input style="width: 95%;" type="text"/>

ACCELERATED / TURNING STALL

- Flaps UP · IDLE/low · 30° bank MAX
- From ~90 KIAS, coordinated turn
- Smooth back-pressure ~1-2 kt/s → break
- Recover — wings level w/ RUDDER first
- Both directions · floor 6,000 MSL

Record

Dir	Bank	Break IAS	Behavior at break
Left	30°		
Right	30°		

ASI note: ASI reads LOW ~2-3 kt (F11 cal): CAS ≈ IAS + 2-3 kt. Log TAS/CAS from analysis, not the indicator.
 Speeds: Vne 200 / Vno 156 / Va 125 (gross) / Vfe 87 / Vs1 clean ~61 / Vs0 full-flap ~52 (all KIAS, placard)

✂ cut along the box — carry it on the kneeboard; keep the SCRIPT page for briefing.