Recording Your Turnback

Flight Recording:

To record your flight, you will need a flight recording device.
Use one of the following to record your flight:

- ForeFlight with attached Sentry (Wi-Fi), Stratus (Wi-Fi), GDL 50 (Bluetooth), or a similar external device that provides GPS/AHRS data (see Foreflight manual).
- G1000 using an SD card to store the flight data (see G1000 manual).
- A similar device that will record GPS and AHRS data at a rate of 1 record per second.
- *NOTE: ForeFlight must be connected (via Wi-Fi or Bluetooth) to an external device to record the rapid turnbacks smoothly. It cannot be used alone without the external device connected for this exercise.*
- With ForeFlight, using Track Log, press Record (on Maps page) before the flight. You can also turn on breadcrumbs and save the breadcrumbs as a Track Log backup.
- After recording, go to More/Track Logs and find the recording. Send the KML file to Mail (to your email).

Preparation:

- Put these sheets in a clipboard to record data during the flight.
- For safety, have one person fly the airplane and another person write down the information during the flight (time, altitude. speed, etc.).
- Feel free to make extra copies of pages if multiple trials of the same maneuver are needed.

Preflight Information:

Email address:	Name (optional):
Tail number (optional):	IAS Units (knots or mph):
Type Aircraft:	Engine Type/HP:
Constant-speed prop? ☐ Yes ☐ No	Type prop:
Gross weight for start of this test flight:	Max gross weight:

Airport Information:

Airport code:	Runway:	Field elevation (MSL)

Conditions:

Ground wind direction and speed (knots):	Density altitude:
Barometric pressure:	Temperature:

Alternatively, take a **screenshot of the METAR** and send it in with the data packet.

Winds Aloft:

Airport code:	3000 feet AGL	6000 feet AGL
Airport near practice area (if different):	3000 feet AGL	6000 feet AGL

Alternatively, take a **screenshot of the Winds Aloft** tab and send it in with the data packet.

Takeoff:

- Confirm the Track Log is recording.
- Line up and wait on the runway – stop on the runway for just a moment to mark the beginning of the roll.
- During takeoff, write down the speed of your climb out when V_Y or V_X is established.
- Maintain heading until 1,000 feet reached (if possible).

Climb out IAS (knots):	Heading:

Measure Winds Aloft:

- Confirm Track Log is recording.
- Maintain level flight at a safe altitude and hold heading (3,000 to 3,500 feet AGL)
- Write down start time of level flight, heading, and KIAS. Hold heading, speed, and altitude for 1 minute.
- Turn 90 degrees and repeat.
- Turn 90 degrees and repeat.

	Start Time	Heading	Speed (KIAS)
Trial 1			
Trial 2			
Trial 3			

Simulate Loss of Power, Turn Back, and Glide:

Protect your engine by using carburetor heat as needed, use slow power reductions to reduce thermal shock, and reset your constant-speed prop to comply with your manufacturer's recommendations.

KNOW YOUR STALL SPEED AT 45 DEGREE BANK.
DO NOT DECELERATE BELOW!

- Confirm Track Log recording.
- Go to a safe altitude (3,000 to 4,000 feet AGL). Check for aircraft in the area.
- Head the airplane either N/S or E/W to line up with fields and/or section lines below. This makes it easy to determine a 180-degree turn.
- Climb at takeoff speed (V_X or V_Y or what was used at takeoff) to at least 4,000 feet AGL.
- Pull the throttle to power off (slowly).
- Count to 4 (seconds) without moving the yoke.
  DO NOT LET THE AIRPLANE STALL.
- Bank to 45 degrees and pitch to best glide speed (V_G).
- Hold until a little past 180-degree turn (i.e. until a little past when the fields below are lined up)*.
- Straighten turn at 180-plus degrees and maintain pitch to best glide speed (V_G).
- Maintain heading **until the altimeter falls 1,000 feet below the start of turn altitude.**
- Apply power.
- Repeat as needed.

**Note: We only need to measure a 180-degree turn. The Takeoff Advisor will use the same descent angle around whatever turn is needed to line up with the runway.*

	Start Time of Power Off	Heading During Stable Glide	Speed (KIAS) During Stable Glide	Comments (bank angle, etc.)
Trial 1				
Trial 2				
Trial 3				

Send Data to EAA:

Send data to FTM@eaa.org:

- Track Log from ForeFlight (KML File) or .csv file from G1000.
- A copy of the written sheets above.
- Screenshots of the METAR and Winds Aloft if applicable.

To receive the 3D flight visualizations off the runways of your choice write down the airport code and runways you would wish to view. These can be different from the runway you took off from.

Airport code:	Runway 1:	Runway 2:	Runway 3: