

G1000 Transition Training

TRAINING AND TRANSITION SYLLABUS



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Notes to the Transitioning Pilot

Ground Training consists of a combination of the *Getting Ready to Fly the Garmin G1000 DVD* and the *Getting Ready to Fly IFR With the Garmin G1000 DVD* as well one-on-one instruction on specific topics. The transitioning pilot is expected to have completed the *Getting Ready to Fly the Garmin G1000* and the *Getting Ready to Fly IFR With the Garmin G1000* Ground Training modules as a home study course.

Briefing and Debriefing are included in the total amount of time necessary to complete the flight portion of the training. Actual flight time can be expected to range from four to six hours, depending on the pilot certificate (VFR only vs. IFR) and level of proficiency.

If both VFR and IFR checkouts are completed at the same time, the transitioning pilot can expect to spend up to two days to complete this training. The time will include the ground training, and flight training.

VFR Transition Training Scenario

Lesson Objective:

During this lesson the transitioning pilot will learn to accomplish tasks required for VFR flight using the Garmin G1000. Specifically the transitioning pilot will learn to

- Become familiar and comfortable with the G1000 presentation of the flight instruments
- Tune communication and navigation frequencies
- Set transponder codes
- Use the GPS to enter a flight plan
- Use the MFD and / or standby instruments in the event of a PFD or ADC/AHRS failure

Upon completion of this lesson the transitioning pilot will have completed the requirements for a Flight Review provided the instructor covers the required items of CFR 61.56

GROUND TRAINING MODULE

The transitioning pilot shall have completed the following home-study Labs from the *Getting Ready to Fly the Garmin G1000* prior to commencing the flight scenarios.

Getting Ready to Fly the Garmin G1000

1. Lab 1 – What the G1000 Does for You
 - a. A Quick Tour of the G1000
 - b. Airplane Control – All on One Screen
 - c. Using the Audio Panel and Radios
2. Lab 2 – Navigation Made Easy
 - b. Direct To: Just Get Me There
 - f. Finding the Airports and Facilities Nearest to You
3. Lab 3 – Managing G1000 Systems

- a. System Startup – From Preflight to Takeoff in the G1000
- b. G1000 Alerts
- c. Using the G1000 Engine Indications
4. Lab 4 – Coping When Things Go Wrong
 - a. Dealing with Malfunctions
 - b. What to Do With an Ailing G1000
5. Lab 5 – Putting It All Together in the Air
 - a. Managing Risks While Flying With a Glass Cockpit

FLIGHT TRAINING SCENARIO

Leg 1:

The flight plan for Leg 1 will be from the _____ *home base airport* to _____ *another airport at least 20 minutes away*. The transitioning pilot will enter the flight plan using the Flight Plan function on the G1000. Enroute to _____ *destination airport* the transitioning pilot will become familiar with the G1000 PFD presentation. The transitioning pilot will tune the radios and transponder. The transitioning pilot will perform normal and/or crosswind takeoffs and landings at the destination airport.

Leg 2:

The flight plan for Leg 2 will be from _____ *departure airport* to _____ *another airport (other than the point of origin) at least 30 minutes away that transitions an area that permits air work, such as stalls and slow flight*. The transitioning pilot will enter the flight plan using the Direct To function on the PFD. Enroute the transition pilot will perform slow flight, steep turns, stalls and unusual attitude recovery. Once re-established on course, the transitioning pilot will lean the engine using the G1000 lean assist function. Prior to reaching the destination a diversion will be required to an alternate airport. The transitioning pilot will use the Nearest function to locate an alternate airport. While flying to the alternate airport, the transitioning pilot will experience a PFD failure and will be required to navigate and land while in reversionary mode. The transitioning pilot will perform short and soft field takeoffs and landings as well as landings using no flaps.

Leg 3:

The flight plan for Leg 3 will be from _____ *departure airport* back to _____ *home base airport* . The transitioning pilot will enter the flight plan using any method they prefer (Direct-To, Flight Plan or Nearest). While flying to the alternate airport, the transitioning pilot will experience an ADC/AHRS failure and will be required to navigate and land using the standby instruments.

SELF EVALUATION RECORD – VFR TRANSITION TRAINING SCENARIO

Scenario Activities	Describe	Explain	Practice	Perform	Manage / Decide
<ul style="list-style-type: none"> • Flight Planning <ul style="list-style-type: none"> ○ Weight & Balance ○ Aircraft Performance ○ Aircraft Speeds ○ Configuration ○ Conduct Flight ○ SRM Briefing 					
<ul style="list-style-type: none"> • Normal Preflight & Cockpit Procedures <ul style="list-style-type: none"> ○ Normal Pre-Takeoff Checklist ○ G1000 Setup 					
<ul style="list-style-type: none"> • Engine Start & Taxi Procedures <ul style="list-style-type: none"> ○ Engine Start ○ G1000 Setup ○ Taxi 					
<ul style="list-style-type: none"> • Before Takeoff Checklist <ul style="list-style-type: none"> ○ Normal & Abnormal Indications ○ G1000 Setup 					
<ul style="list-style-type: none"> • Takeoff <ul style="list-style-type: none"> ○ Normal / Crosswind ○ Short field / Soft field ○ No Flap 					
<ul style="list-style-type: none"> • Climb Procedures <ul style="list-style-type: none"> ○ Manual Climb ○ Autopilot Climb ○ Power Management ○ Use of G1000 Features 					
<ul style="list-style-type: none"> • Cruise Procedures <ul style="list-style-type: none"> ○ Lean Assist ○ Manual Cruise ○ Autopilot Cruise 					
<ul style="list-style-type: none"> • PFD / <i>Visual</i> Crosscheck <ul style="list-style-type: none"> ○ Straight & Level Flight ○ Normal Turns ○ Climbs & Descents 					
<ul style="list-style-type: none"> • Slow Flight, Stalls, Steep Turns <ul style="list-style-type: none"> ○ Configuration Changes ○ Slow Flight Recovery ○ Power-off Stall Recognition ○ Stall Prevention 					

<ul style="list-style-type: none"> ○ Steep Turns 					
<ul style="list-style-type: none"> ● G1000 Programming <ul style="list-style-type: none"> ○ General Programming ○ Communications ○ Ground Based Navigation 					
<ul style="list-style-type: none"> ● Autopilot Operation <ul style="list-style-type: none"> ○ Navigation Modes ○ PFD Interface 					
<ul style="list-style-type: none"> ● Emergency Escape Procedures <ul style="list-style-type: none"> ○ Recovery from Unusual Attitudes ○ Weather Deviations 					
<ul style="list-style-type: none"> ● PFD / Standby Instruments / <i>Visual, Instrument</i> Crosscheck <ul style="list-style-type: none"> ○ Straight & Level Flight ○ Normal Turns ○ Climbs & Descents 					
<ul style="list-style-type: none"> ● Emergency Escape Procedures <ul style="list-style-type: none"> ○ Autopilot Only Flight ○ PFD / AHRS / ADC Failure ○ Alternator Failure ○ Pilot Decision Making 					
<ul style="list-style-type: none"> ● Landing <ul style="list-style-type: none"> ○ Before Landing Procedures ○ Normal / Crosswind ○ Short field / Soft field ○ No Flap ○ Cross Panel Landing using PFD ○ Cross Panel Landing using MFD / Standby Instruments 					
<ul style="list-style-type: none"> ● Aircraft Shutdown & Securing Procedures <ul style="list-style-type: none"> ○ Checklist Usage 					

Notes

Lesson Date _____

Flight Time/Briefing Time _____ / _____

CFI _____

Transitioning Pilot _____

IFR Transition Training Scenario

Lesson Objective:

During this lesson the transitioning pilot will learn to accomplish task required for IFR flight using the Garmin G1000. Specifically the transitioning pilot will learn to

- Fly approaches using the G1000
- Use the G1000 for Course Reversals and DME Arcs
- Use the G1000 for DPs and Arrival procedures
- Use the MFD and / or standby instruments in the event of a PFD or ADC/AHRS failure

Upon completion of this lesson the transitioning pilot will have completed the requirements for an Instrument Proficiency Check.

GROUND TRAINING MODULE

The transitioning pilot shall have completed the following home-study Labs from the *Getting Ready to Fly IFR With the Garmin G1000* prior to commencing the flight scenarios.

Getting Ready to Fly IFR With the Garmin G1000

1. Lab 1 – Flying Instrument Approaches with the G1000
 - a. About Approaches Using the G1000
 - b. ILS Approaches
 - c. GPS Approaches
 - d. VOR Approaches, Including DME Arcs
 - e. How to Fly Course Reversals
 - f. How to Fly Missed Approaches
2. Lab 2 – Adding Departure Procedures and Arrivals to your Flight Plan
 - a. DPs – Turn Your Clearance into a Flight Plan
 - b. Arrivals – Turn Your Arrival Clearance into Updated Flight Plan
3. Lab 3 – Coping When Things Go Wrong in IMC
 - a. Dealing with G1000 Malfunctions While IMC

FLIGHT TRAINING SCENARIO

Leg 1:

The flight plan for Leg 1 will be from _____ *home base airport* to _____ *another airport with VOR approach that uses a course reversal or DME arc*. The transitioning pilot will set up the Nav radios and will set up the GPS for the approach overlay. Upon reaching a safe altitude the transitioning pilot will engage the autopilot to track the VOR outbound or to intercept the DME arc. The transitioning pilot will use a procedure turn or other course reversal to transition to the inbound leg. The transitioning pilot will circle to land at the _____ *destination airport*.

Leg 2:

The flight plan for Leg 2 will be from the _____ *departure airport* to _____ *another nearby airport with an ILS approach*. The transitioning pilot will set up the Nav radios and will set up the GPS for the approach overlay. The first approach will be coupled with the autopilot. The transitioning pilot will execute an ILS approach using radar vectors, followed by published missed using the SUSP mode. After the hold, the transitioning pilot will execute another ILS approach with a PFD failure.

Leg 3:

The flight plan for Leg 3 will be to _____ *a nearby airport* with a GPS approach. The transitioning pilot will be instructed to program the GPS using the NRST function for an alternate airport due to weather. The transitioning pilot will select a GPS approach, and will set up the approach. During the approach the transitioning pilot will experience an ADC/AHRS failure. The transitioning pilot will select a GPS approach, and will set up the approach. During the approach the transitioning pilot will experience an ADC/AHRS failure.

SELF EVALUATION RECORD – IFR TRANSITION TRAINING SCENARIO

Scenario Activities	Describe	Explain	Practice	Perform	Manage / Decide
<ul style="list-style-type: none"> • PFD / <i>Instrument</i> Crosscheck <ul style="list-style-type: none"> ○ Straight & Level Flight ○ Normal Turns ○ Climbs & Descents 					
<ul style="list-style-type: none"> • G1000 Programming <ul style="list-style-type: none"> ○ General Programming ○ Communications ○ Ground Based Navigation ○ <i>IFR</i> Functions & Procedures ○ Terminal Area Procedures 					
<ul style="list-style-type: none"> • Autopilot Operation <ul style="list-style-type: none"> ○ VS & Altitude Hold Modes 					
<ul style="list-style-type: none"> • Instrument Approach Procedures <ul style="list-style-type: none"> ○ Manual ILS Approach ○ Coupled ILS Approach ○ VOR Approach ○ GPS Approach ○ Missed Approach ○ Holding 					
<ul style="list-style-type: none"> • G1000 Programming with PFD / AHRS / ADC Failure <ul style="list-style-type: none"> ○ <i>IFR</i> Functions & Procedures ○ Terminal Area Procedures 					
<ul style="list-style-type: none"> • Landing <ul style="list-style-type: none"> ○ Cross Panel Approach and Landing using PFD ○ Cross Panel Approach and Landing using MFD / Standby Instruments 					

Notes

Lesson Date _____

Flight Time/Briefing Time _____ / _____

CFI _____

Transitioning Pilot _____

Garmin G1000 Advanced Functions Scenario

Lesson Objective:

During this lesson the transitioning pilot will learn more about the additional features available on the Garmin G1000. Specifically the transitioning pilot will learn to

- Manipulate flight plans
- Use advanced functions of the G1000 to tune radios
- Use advanced functions of the MFD
- Tune the X/M Radio
- Use Data Link Weather Services
- Use the MFD and / or standby instruments in the event of a PFD or ADC/AHRS failure

Upon completion of this lesson the transitioning pilot will be able to correctly gather the most important data available both within and outside the cockpit, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision.

GROUND TRAINING MODULE

The transitioning pilot shall have completed the following home-study Labs from the *Getting Ready to Fly IFR the Garmin G1000* prior to commencing the flight scenarios. The instructor will use the outline and exercises in Appendix A to teach the transitioning pilot the functions associated with Data Link Services.

Module Three – Garmin G1000 Advanced Functions

1. Getting Ready to Fly the Garmin G1000, Lab 2 – Navigation Made Easy
 - a. Flight Plans: From Anywhere to Anywhere and All Points in Between
 - c. Seeing Things Around You: Choosing Map Options
 - d. Seeing Where You Are: Using the Map
 - e. How to Select Waypoints Using Facilities Info on the Waypoint Page Group
2. XM Satellite Radio
3. On Board Data Link Weather – Appendix A
 - a. Overview
 - b. NEXRAD Radar
 - c. TFRs
 - d. METARs and TAFs
 - e. SIGMETs and AIRMETs
 - f. Echo Tops
 - g. Data Link Lightning
 - h. Winds Aloft
 - i. Freezing Levels

FLIGHT TRAINING SCENARIO

Leg 1:

The flight plan for Leg 1 will be from _____ *departure airport* to _____ *another airport approximately 30 minutes away*. The transitioning pilot will set up the MFD to assist with situational awareness. This includes selecting appropriate overlays, use of track vectors and wind vector, fuel range ring and scaling the range on the MFD. The transitioning pilot will also setup the inset map on the PFD. Transitioning pilot will hand fly the airplane to the destination using the information available on the MFD for course corrections. The transitioning pilot will use the features of the MFD to determine the appropriate runway at the destination airport.

Leg 2:

The flight plan for Leg 2 will be from _____ *departure airport* to _____ *another airport at least 50 nm away*. The transitioning pilot will use the MFD to auto load appropriate frequencies at the departure airport. After departure the transitioning pilot will engage the autopilot at the appropriate altitude. Once stabilized on course the transitioning pilot will select a radio station. The transitioning pilot will also check weather both enroute and for the destination airport. The transitioning pilot will be directed to select an alternate airport. The alternate should be selected based on distance, weather at the alternate airport, available runway information and terrain considerations. The transition pilot will use the VNAV function to plan the descent to the alternate airport.

Leg 3:

The flight plan for Leg 3 will be to _____ *base airport*. The transitioning pilot will set up the MFD and auto load frequencies as they feel fitting. This leg is conducted in simulated instrument conditions. The autopilot will be engaged at the appropriate altitude. Enroute the transitioning pilot will experience an ADC / AHRS failure. The transitioning pilot will use the autopilot and standby instruments to complete the flight.

SELF EVALUATION RECORD – G1000 ADVANCED FUNCTIONS SCENARIO

Scenario Activities	Describe	Explain	Practice	Perform	Manage / Decide
<ul style="list-style-type: none"> • Before Takeoff Checklist <ul style="list-style-type: none"> ○ Map Inset (Terrain) ○ MFD Setup 					
<ul style="list-style-type: none"> • XM Radio Operation 					
<ul style="list-style-type: none"> • Data Link Situational Awareness <ul style="list-style-type: none"> ○ Traffic Information System (TIS) ○ Strike Finder ○ Terrain Awareness ○ XM Weather 					
<ul style="list-style-type: none"> • Descent Planning & Execution <ul style="list-style-type: none"> ○ Automation Management ○ VNAV Planning ○ Navigation Programming ○ CFIT Avoidance 					
<ul style="list-style-type: none"> • Autopilot Operation <ul style="list-style-type: none"> ○ AHRS / ADC Failure 					

Notes

Lesson Date _____

Flight Time/Briefing Time _____ / _____

CFI _____

Transitioning Pilot _____

PILOT TRAINING RECORD

Pilot Training Record	
PILOT'S NAME (Last, First, MI)	AIRMAN'S CERTIFICATE #
MEDICAL: CLASS	DATE ISSUED
INSTRUCTOR'S NAME (Last, First, MI)	INSTRUCTOR'S CERTIFICATE #
FLIGHT DETAILS	TYPE CHECK
AIRCRAFT MAKE AND MODEL	FLIGHT REVIEW
	AIRCRAFT MAKE & MODEL
TOTAL TIME FLOWN	INSTRUMENT PROFICIENCY CHECK
	NIGHT
TOTAL TIME IN MAKE AND MODEL	INSTRUCTOR :
	RECURRENCEY
WRITTEN TESTS PASSED (<input type="checkbox"/> Open Book <input type="checkbox"/> Closed Book)	OTHER: (Specify)
REMARKS: (Use reverse if necessary)	
<u>FLIGHT REVIEW</u>	
I certify that the above named pilot satisfactorily completed a FLIGHT REVIEW according to 14 CFR 61.56 on this date.	
_____ Instructor's Signature	_____ CFI #
_____ Exp. Date	
<u>INSTRUMENT PROFEICIENCY CHECK</u>	
I certify the above named pilot satisfactorily completed an INSTRUMENT PROFICIENCY CHECK according to 14 CFR 61.57(d) and FAA-S-8081-4C on this date.	
_____ Instructor's Signature	_____ CFI #
_____ Exp. Date	
I certify I have read and understand all applicable FAA regulations/directives, believe I have been properly trained, and believe I am fully qualified to act as Pilot In Command in the capacity indicated. Additionally, I certify I have performed the attached maneuvers to at least the level prescribed by the FAA Practical Test Standards for a _____ Pilot /	
PILOT'S SIGNATURE	DATE (DD MMM YY)
I certify that I have administered this training according to FAA guidance, the pilot has demonstrated proficiency on the attached maneuvers at least to the level prescribed by the FAA Practical Test Standards for a Private Pilot / Instrument Airplane, as applicable, and I believe the named pilot is fully qualified to act as Pilot in Command in the capacity indicated.	
INSTRUCTOR'S SIGNATURE	DATE (DD MMM YY)