

Training and Preparation for the Panel Mount Garmin 430W

IFR and VFR pilots need to get ready for the Garmin 430W GPS panel mount installations beginning with N759GF on August 3; and ending with N7103G on August 21, 2009.

For **Flight Plan** purposes the “Aircraft type/Special Equipment” will change from Cessna 182/A to **Cessna 182/G and Cessna 172/G** respectively.

GPS can enhance your situation awareness, give you IFR access to more airports, and expand your routing options. It can also increase your cockpit workload. Before you launch into IMC, spend plenty of time learning the new equipment. The learning curve may be steep at first, but you’ll find it’s worth the effort. Both AOPA and Garmin have excellent training procedures that can be done on your PC at home before checkout with your instructor.

During the interim, the #2 KX155 radio and OBS will not change so one can always fall back and use the familiar, but older avionics.

First I recommend the AOPA training and downloads, then work with the Garmin 430W Operating Procedures and lesson plans outlined for the Simulator, but only then go for your check ride with your instructor.

AOPA Web Pages

For VFR Pilots;

Click on “Take the course now >>

http://www.aopa.org/asf/online_courses/gps/

They also provide a PDF reference guide that can be printed and taken into the cockpit

. <http://flash.aopa.org/asf/vfrgps/gns430.pdf>

For IFR Pilots

Click on “Begin Course”

http://flash.aopa.org/asf/gps_ifr/swf/flash.cfm

After completing course, take the test, print your certificate, and show to your instructor

Key Points from AOPA

GPS units require study and practice to be used safely under IFR.

Unless you have a WAAS receiver, if an alternate is required, you must be able to fly an approach at the alternate without GPS.

Always pay attention to the CDI source! Is it reading from the GPS or a VOR/localizer?

Don't lose track if you're in "Normal" or OBS mode, and make sure you know which mode is appropriate for the situation.

Be sure you know how to revise a flight plan in the air to comply with ATC changes.

Unless you're sure you can reprogram the GPS, reject last-minute ATC requests to change approaches. If you get behind, ask for delaying vectors. Be prepared to fall back upon traditional nav aids if things get too hectic.

Don't forget to activate the approach—loading is not enough.

Don't descend to the MDA when the GPS announces that it's switched to approach mode—2 nm from the FAF is not the same as being over the FAF.

On the missed approach, don't hit the OBS or Direct key too soon. The receiver may direct you to start a turn when you're still too low.

Don't spend so much time programming the GPS that you neglect to fly the airplane—or forget to look outside.

. Next, you will launch into the Garmin lesson plans with Simulator.

Garmin Web Pages and Training Packages

Practice on the ground with the PC based simulator and lesson plans until you develop a basic level of knowledge surrounding the operation of Garmin GNS430W avionics prior to the commencement of actual flight training. The training downloads are listed in the "freebies" section that is presented below:

1. **Specs** for the Garmin 430W:

<https://buy.garmin.com/shop/shop.do?cID=194&pID=301>

2. Download and view the **Training video**... a zip file that plays on Windows Media Player:

http://www8.garmin.com/include/aviation/GNS_WAAS_Training_Video_Presentation.zip

3. Download the GNS 400W/500W(WAAS) Series **Simulator**—WAAS software version 3.00 below: (needed to complete the lesson plans)

http://www8.garmin.com/support/download_details.jsp?id=3532

4. Download the training **lesson plans** that go with the Simulator and save to your disc drive. Students and instructors should consider using these lesson plans.

http://www8.garmin.com/manuals/288_SampleTrainingSyllabus.pdf

5. Download a 218 page **reference manual** “Pilots Guide” for the 400W Series:

http://www8.garmin.com/manuals/GNS430W_PilotsGuideandReference.pdf

6. **Complete all worksheets**/lessons prior to arriving for training/checkout flight(s) by your instructor.

AIM

Review and understand sections 1-1-21 to 1-1-25 in the **Airmans Information Manual(AIM)** so you can answer the following questions:

1. In general, can the GNS 430 or GNS 530 be used for IFR operations in place of ADF and/or DME equipment?
2. Describe the requirements for determining aircraft position over a DME fix using GPS.
3. Describe the requirements for flying a DME arc using GPS.
4. Describe the requirements for holding over an NDB/compass locator using GPS.
5. Must the Jeppesen navigation database be current to fly approaches under IFR?
6. What does the abbreviation RAIM stand for?
7. For preflight preparation, how can you obtain GPS RAIM information?
8. While flying an approach, what should the pilot do if a RAIM warning is received prior to arrival at the Final Approach Waypoint?
9. Explain the difference between fly-over and fly-by waypoints and draw a picture of their approach chart symbols.
10. On some approaches, the heading information portrayed on the GPS is slightly different than the heading shown on the chart; why does this happen?