EXPERIMENTAL AIRCRAFT ASSOCIATION

Chapter 448

Cable Airport
1749 West 13th Street - Upland, CA 91786
www.eaa448.org - Build it and you can fly!

EAA™ THE SPIRIT OF AVIATION

Monthly Newsletter - The Plane Flap May 2009

Photos from the Cable Airport
Check out a few shots taken around the airport!
KCCB Gate/ID Cards
Gates are locked. You need to get an access card to enter the airport.
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Dynon Interview
Mark Schrimmer shares some info on Dynon's new EFIS.
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Work Party!
Join us after the meeting to help with the hangar build out project. We have lots to do, so stick around and lend a hand.

Upcoming Events

Monthly Meeting - Saturday May 9, 2009
11:30 am. Lunch provided after the meeting!
Our topic this month is on avionics and electronics. Please join us for an interesting discussion.

Board Meeting - Saturday April 9, 2009
10:00 am.
All members are welcome to attend. We will be discussing the plans for the hangar work party.

Repairing a leaking Airpath Compass

Written by: Gary Sobek

On a recent flight I noticed a drip, or rather a pour of a clear liquid on my panel from below where my Airpath Compass is mounted. Looking closer, I could see air in the compass. After landing, I put the aircraft away in my hangar and headed off.

Checking the Airpath Compass web site, www.airpathcompass.com I found that the diaphragm used in the compass has a two year shelf life. The web site info on Diaphragm Shelf Life was updated 14 October 2008. http://69.89.31.96/~airpathc/index.php?option=com_content&task=view&id=17&Itemid=2

The link above says:

"There are many inquiries about the shelf life for commercial diaphragms. Our manufacturer, of the original material, states that the shelf life is indefinite as long as the material is kept clean and at a constant, stable temperature. Once the diaphragm is installed in the compass, under harsh weather conditions, exposed to compass fluid and UV light, we warranty them for two years. On average, the compass will not leak for 5-10 years dependent upon the conditions. All of that said, we have placed a 2-year shelf life from the date the material arrives at our customer's dock. Please be advised that we strongly recommend that these diaphragms be installed by FAA licensed overhaul/repair stations only."

My compass has been in service for more than 11-years and over 2,200 hobbs hours. The compass was manufactured July 1994. Doing a check on prices, looks like a new compass will cost around $150. A compass repair kit less then $20 and a tool to fill it $23. Did not price what a repair shop would cost but was thinking that I would spend as much time taking the old compass to a shop, filling out a service request, and then picking it up as it would to fix it myself. I spend one-hour removing, repairing, photographing, and reinstalling the compass.

The parts arrived and I removed the compass. The back of the compass

showed the leaking fluid. I removed the screws on the back of the compass then removed the back cover.

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Photos from the Cable Airport

Left traffic downwind runway 24, Cable

Turning final runway 24, Cable

Coming in over the numbers, Cable

BUILDERS WANTED

Hangar Space Available for Builders

We currently have an opening for a builder to move into the EAA chapter hangar. It's a great place to build your project. We have tools, space and lots of advice to help builders with their projects. If you are interested, please contact Rocky.
[president@eaa448.org]

AIRPORT LOCKDOWN

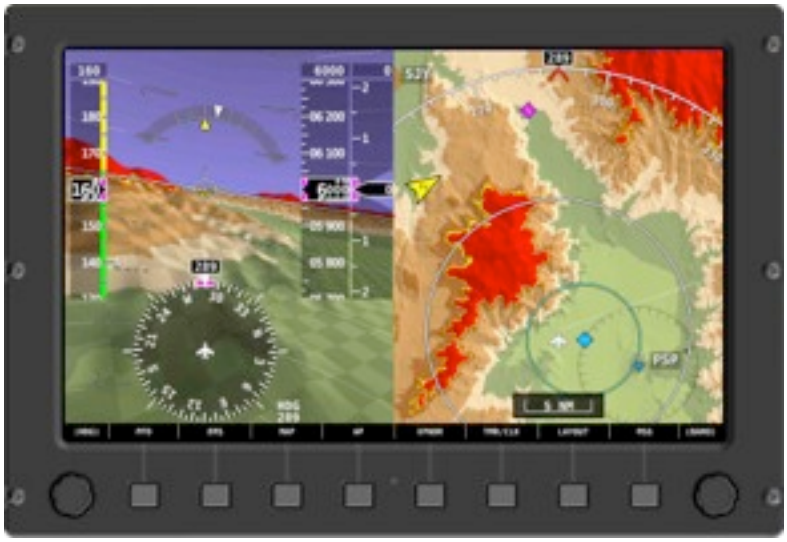
Gate Cards Required to access KCCB

Cable airport has started closing all the gates. You must have a Gate/ID card. Each person on the airside portion of the airport is expected to have a Cable Gate/ID card or be accompanied by someone who does. The card costs $25 and may be obtained by calling Bill Blanchard at 909-518-4662 to make an appointment. Bill said EAA members may have gate cards, you just have to sign up and pay the fee.

If you don't have a card now, getting to our meetings has been somewhat restricted. We have made arrangements with the airport to have the North, Benson avenue gate open from 10am - 2:00pm on the second Saturday of month for our meeting. If you get to the airport early, or stay late, you may have to find someone to escort you through a gate.

Interview with Dynon

Written by Mark Schrimmer



I stopped by the Dynon booth at Sun 'n Fun, and asked a series of questions about Dynon's new 'Next Generation' EFIS system. The sales rep told me a few other things, but this is most of what he said.

Mark: When is the next generation EFIS going to be available?

Dynon: We're not sure. We don't want to make any promises and then miss our target date.

Mark: What's your best guess?

Dynon: We hope it will be this year, but it depends.... It could be first quarter of next year before it's shipping in quantity. We might be able to release more details about price and availability at Air Venture, but at this point, we're really not sure.

Mark: What do you recommend for someone who has to decide on a panel soon?

Dynon: If you go with our current generation products, we will allow a trade-in allowance when the next generation becomes available.

Mark: How much of a credit?

Dynon: Probably 50%, but confirm that at the time you place your order.

Mark: What's the best way to upgrade? The size looks different between the current stuff and the next generation.

Dynon: I can give you an actual size photo of the current and next generation for panel planning purposes. Since the new display is larger than the old display, you can plan your panel for the new display, but only cut the hole the size of the old display. You can enlarge the hole when the new stuff becomes available. You can also cut the hole for the new display now, and put a temporary metal insert in the large hole to support the old, smaller display. When the new display becomes available, remove the old display and the metal insert and your panel will be ready to accept the new display. This approach might make sense if you don't want to repaint your panel when you install the new display.

Mark: That sounds pretty good. Can I have a copy of the actual size photos?

Dynon: Sure, just cut these out and place them on your panel.

Mark: Thank you.

Dynon: Something else you should know is that the next generation display isn't as deep as the current products. There's more room behind the panel because we've moved some of the electronics to a separate box that's similar to our remote compass unit. You'll want to think about where you want to place the remote box when you plan your wiring.

Mark: What about your autopilot servos?

Dynon: The servos will work with the next generation, but if you're planning to go with the next generation, I'd recommend that you don't buy our optional expansion modules. Those controls will be built right into the next generation display.

Mark: Don't you need the modules to control the autopilot?

Dynon: No, you don't. That's a common misconception. The modules make it easier to use the autopilot, but you can actually control the autopilot with the buttons below the screen of the current generation display.

Careful inspection of the diaphragm found a crack. There was also deterioration everywhere the diaphragm was in contact with the compass fluid.

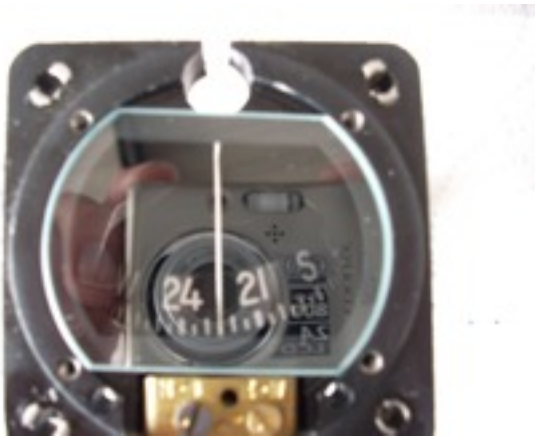
Next off the compass was the front bezel face that holds the glass on.

The glass was stuck to the rubber gasket and the front of the compass. It took a little work to carefully get it off without damaging the glass or the sealing surface. The gaskets were then carefully removed from the glass and the glass cleaned to like new for reinstallation.

Everything was cleaned spotless so as to be 'Like New' again. I now started the reassembly process.

First I installed the rubber gasket for the glass. Please note that it fit better one way with the kit I have and my compass than it did the other way.

After the gasket, the glass was installed.



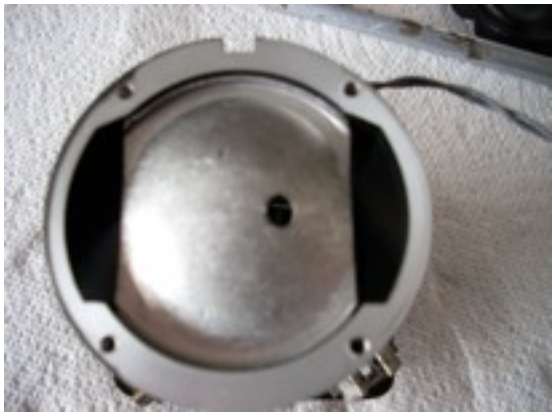
After the glass was the paper gasket that allows the bezel to hold the glass on without scratching and fretting.

I found that the gasket fit better one way than it did the other.

Next part installed is the bezel that holds the glass in place.

Before and while tightening the screws, it may be necessary to slide the gasket so that it is under the bezel.

With the front of the compass now reassembled, it is time to fit the diaphragm on the back of the compass.



The position that I dropped the new diaphragm on reveled that the diaphragm only goes on one way.

I rotated the diaphragm till I found the direction it fit best.

Next the rear cover is installed. Now that the compass is together, it is time to fill it. Oops, I find out that I forgot to remove the fill plug. Placing a screw driver on the fill plug, I find that I cannot move it. I have an Impact Driver that is hit with a hammer to remove tight screws on motorcycles. I really do not wish to hit my compass with an impact diver but there are bits that should fit better than a screw driver and I can place a wrench on the bit for more leverage. Good idea but I cannot hold the compass and turn the fastener. Using two scrap pieces of aluminum, I clamp the compass in my vise then place my make-shift removal tool on the compass.

It works, and out comes the fill plug.

Next step is to fill the compass. I purchased a tool that should make this easy. I install the tool with the rubber bands that came with it

This makes filling the compass easy. After filling the compass, I tried to get all the air bubble out, remove the fill aid, than install the plug. Rotating (shaking) the compass around, I notice that I still have an air bubble. Two more iterations of filling, capping, and shaking till there are no more bubbles in the compass. I purchased the compass repair kit that comes with its own fluid. Others have told me that they have used Stoddard Solvent, Mineral Spirits, Kerosene, and Jet fuel. The fluid was a lot like jet fuel or kerosene but it had NO smell. The rebuild did not use a lot of fluid. I estimate that only 1/3 of the 8 oz bottle was used to fill the compass. The compass now goes back in the airplane, the records updated that the compass was repaired and the aircraft test flown.

This procedure should work for all Airpath compasses installed in Experimental aircraft. For those flying certificated aircraft, see you're local instrument repair station for removal, installation, and service.

Gary A. Sobek, EAA Tech Counselor, FAA A&P, FAA DAR

Ron Collete doing a taxi test prior to his first flight. We hear Ron's Sportsman 2+2 is now flying! Way to go Ron. Nice job on the build, we hope you enjoy many years of service from your new plane.

Board of Directors - 2009

Position	Name	Phone	Email
President	Rocky Morrison	909-560-9328	president@eaa448.org
Vice President	Ron Collete	909-223-9995	vp@eaa448.org
Secretary	Greg Dillon	951-310-2290	secretary@eaa448.org
Treasurer	Keith Sremaniak	909-851-5280	treasurer@eaa448.org
Communications	Peter McCoy	949-495-3478	webmaster@eaa448.org
Young Eagles	Robert Scott	714-501-8671	youngeagles@eaa44.org

Technical Advisors

Tech Adv/DAR	Gary Sobek	310-403-6197	techadvdar@eaa448.org
Tech Advisor	Fred LaForge	909-969-1528	techadv@eaa44.org
Tech Advisor	Robert Paisley	951-317-3473	techadv@eaa44.org

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EAA Chapter 448
1749 West 13th Street
Upland, CA 91786