

May 2018



EAA CHAPTER 145

SINCE 1962



**Chapter Meeting: Saturday, May 12, 2018 – 10:00am
Riverview Airport (08C) in the big hangar**

CHAPTER MEETING

For this month's meeting we will hear from Gus Hawkins. He will tell us how to get "Back to the Cockpit". He will help those who are afraid to get going again after an incident.

PRESIDENT'S CORNER

I just Volunteer, this is what EAA is all about. I was thinking about a few examples such as...

~All the volunteers who help with Young Eagle events, the results being that over 2 million young people have experienced flight and aviation.

~We have volunteers that have traveled to the Weeks Hangar for 28 years. The variety of EAA aircraft work on is too numerous to list here, but you can be sure that many of the aircraft you see flying at AirVenture, out on tour and in the EAA museum. These all have the mark on them from the volunteers of EAA145.

~Volunteers that help out at open house events at Riverview. Over the years we have had many types of open houses and activates at Riverview. These include Bonfire, special meeting, trips and Memorial Day.

This year on June 16, we will have a mini-open house at Riverview for campers from Steamboat Campground (alongside the runway). You will have a chance to volunteer and show the campers what sport aviation is all about. I bet you can come up with a few examples yourself. It's very self-fulfilling to give back to the aviation community that has given so much to you, i.e. Volunteer.

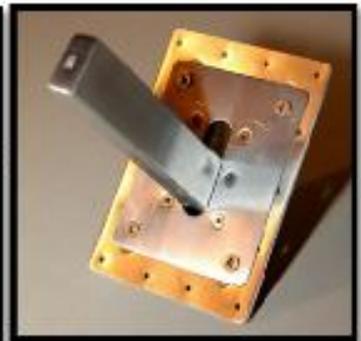
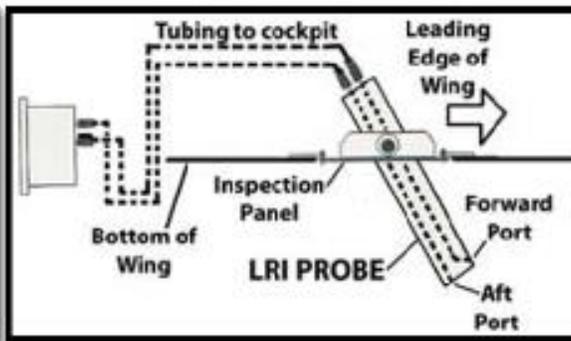
Cheers, Dick

INSIDE THIS ISSUE

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WEBSITE OF THE MONTH: www.sonexfoundation.com/Lift_Reserve_Indicator.html

An LRI is a system used to measure the amount of lift being produced by a wing in any given situation, by comparing the static pressure to the dynamic pressure in a probe mounted in a fixed position under the wing. The device is used to maintain a safe margin from a stalling condition, and may be used in takeoff, landing, and while maneuvering at any attitude or angle.



D.I.Y. ANGLE OF ATTACK METER

The "Lift Reserve Indicator" has been referred to as an angle of attack meter, a lift management system and an air speed system. It is probably all of the above.

The lift reserve indicator we are talking about is similar to the instrument known commercially as the LRI Lift Reserve Indicator. It consists of a rectangular shaped air stream probe and a commercially available differential pressure gauge. There are two air pressure ports, each on separate faces of the probe. The differential pressure between the two ports yields lift reserve readouts. The high pressure port on the gauge is connected to the top surface port.

The gauge used is a "DWYER MINIHELIC II" pressure gauge. Part number 2-5002. This gauge reads 0-2" of water column. The gauge face is removable and is modified by LRI to have 3 separate zones. (see my version below) The first zone is the "red zone" which is from 0 to .5" of water. The second zone (white or yellow) goes from .5" to 1.0" of water. The third zone is from 1.0" to 2.0" of water column.

The red zone indicates that the airplane is no longer generating enough lift to sustain level flight. The top of the red sector and the bottom of the white or yellow sector is the point that wing is generating "just" enough lift to support the aircraft. During takeoff as the needle clears the red sector and moves into the yellow sector the plane has enough lift for takeoff. On landing the goal is to get the tires to just touch the runway when the needle is one mark from the top of the red sector. (0.4") You will rotate the probe and repeat landings until the needle is at this point. The probe position should be marked in this position so that it will be evident during a preflight if it has moved.

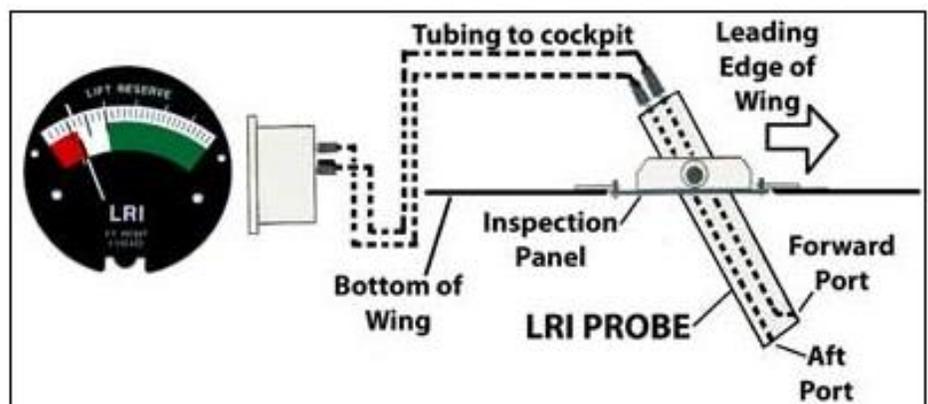
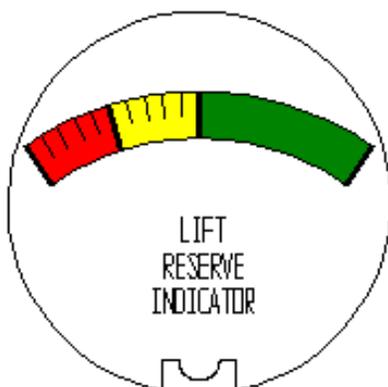
The white or yellow sector is the slow speed region of the aircraft. The final approach on landing is flown with the needle centered in the white or yellow zone. The turn to final should be done with the needle no lower than the white/ green zone.

The green zone is the region where there is ample lift and the needle will most probably pegged. (4.0")

The location of the probe should be out of the prop wash and located between 15% and 30% of the wing chord as measured from the leading edge. The angle to start is recommended to be about 50 degrees from the bottom of the wing. A Cessna 172, that was fitted with this device had the probe at 69.5 degrees from the bottom of the wing surface. You will have to determine this on your own plane.

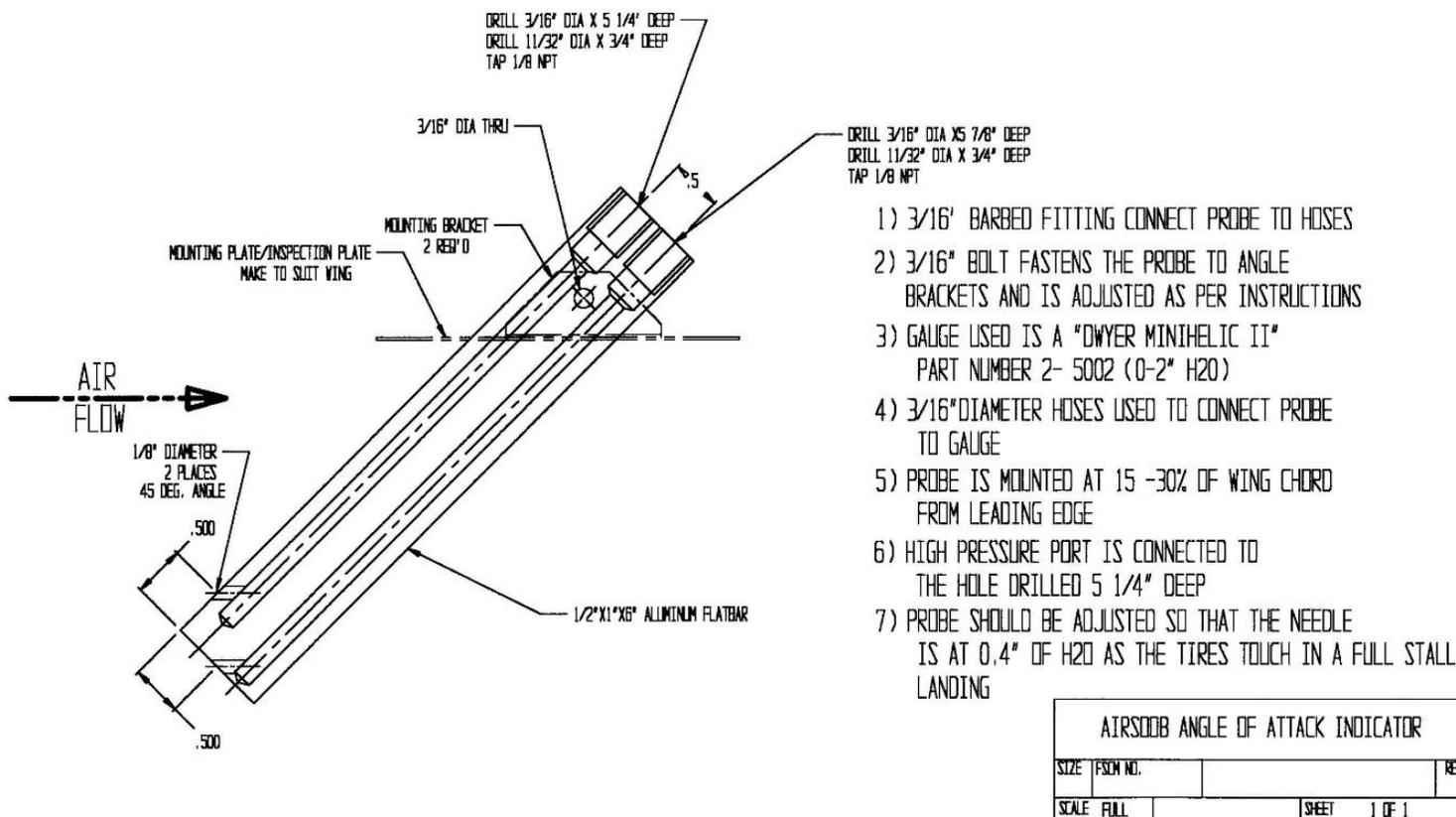
They recommend that the gauge be mounted at the top left portion of the instrument panel so that the eyes don't have to move far from where they look during the landing phase.

Below is what the gauge face should look like.



The diagram looks kinda ratty, but it prints out OK. Just the below image and "save file as". Then use your favorite viewer to resize and print.

Talk recently on the list re LRI's. Some have previously made comments about the odd size of the Dwyer minihelic gauge that is specified in the plans . Out of curiosity, I found a rectangular 0-2" differential pressure gauge. The model I found that would be best suited for use is the DG87841-1C in the 500Pa range (500Pa = 2" wc). It is more expensive than the Dwyer gauge, but some may want/prefer the rectangle shape. The price quote I received from the distributor was \$96.50 ea. It is available in vertical or horizontal mounting. The DG87841 is vertical and the DG87641 is horizontal. There is also a nearly identical unit available from Manostar, but it was quoted at \$120.



FREE TO A GOOD HOME

Kel DeVries is doing some spring cleaning and has some spare parts for a great price - **FREE**. There is a cowling for a VW project, qty(2) nose gears from C-172 & wheel pant. He will try to bring them to the next meeting....



WEEKS RESTORATION HANGAR TRIP

For the 28th year in a row, EAA145 made the trip to Weeks Hanger in Oshkosh. They worked on the EAA B-25, "Berlin Express", making it closer and closer to flight readiness. This is the same B-25 worked on by the Chapter 145 during its first visit in 1990. They also observed the flight crews training on the EAA B-17, "Aluminum Overcast". A good time was had by all.

Here is a youtube link from another volunteer that happened to be at Weeks Hangar at the same time: https://www.youtube.com/results?search_query=justaplanevolunteer



YOUNG EAGLES

Young Eagle events for 2018 are starting to come in.

The Byron Center scout troop will be at Riverview Saturday, May 5, to earn Aviation Merit Badge. EAA chapters in West Michigan are hosting Young Eagle rally's this summer. Let the coordinators know if you are interested in flying or working on the ground.

EAA145, Holland (BIV)

-Saturday August 25, 8a to 12p (Wings of Mercy open house/pancake breakfast)
-YE Coordinator: -Richard Foster, 616-538-8849, flyrfc172@aol.com

EAA211, Grand Haven (3GM)

-Saturday, June 2, 8a to 12p (pancake breakfast)
-Saturday July 14, 8a to 12p (open house)
-YE Coordinator: -Warren Roosen, 231-750-7399, roosenwc@gmail.com

EAA704, Sparta (8D4)

-Saturday August 11, 8a to 12p (pancake breakfast)
-YE Coordinator: -Chuck Hazekamp, 231-250-6030, ksea427@hotmail.com

EAA221, Plainwell (61D) & Sparta (8D4)

The West Michigan Flight Academy is planning multiple Young Eagle activities on various dates in May, June and July. Check with Ginger for date, place and time.

-YE Coordinator: -Ginger DeVillers, 269-903-5427, v.l.devillers@gmail.com

Calkins Field Aviation LLC

Pete Steinbacher of Calkins Field Aviation LLC, is our local source for all your maintenance needs, right here at Riverview. Pete has an A&P license, along with Inspection Authorization. Pete provides Annual Inspections, 100-hour inspections if req'd, maintenance and repairs on all types of aircraft. He has done extensive renovations to the main hangar at Riverview. There is a fully functional machine shop.

Pete is also an experimenter. He is almost finished with a Piper Cub project, and has a Pietenpol project waiting in the wings.

Pictured below are Pete Steinbacher, Bill Willyard, and Larry Baine. Larry and Bill often help Pete with the projects; be it a 2nd set of eyes to double-check work, or strong arms to help move items around. Larry Baine also has his A&P.



Pete can be reached at (616)889-5971.



MORE ANGLE OF ATTACK

The angle of attack indicator, or lift reserve indicator is a very important device, especially in the first flights of an experimental aircraft. The AOA indicator is a direct device – it measures the air directly with no derivatives (bellows, gears, arms). An angle-of-attack indicator provides an instantaneous readout of stalling margin regardless of how heavily loaded you are, what spot of bank you've got dialed in or what the wind is doing.

The normal airspeed instrument is less accurate at low speeds and high angles of attack. On first flights, the normal airspeed may not be calibrated that well and give erroneous outputs. It would be a good feeling to have a "second opinion" on what the air is doing outside the airplane.



For more information on AOA, see:

<https://www.youtube.com/watch?v=Ubx5S8rzl7s>

https://www.mountainflying.com/pages/articles/alpha_systems_aoa.html

EAA Chapter 145 website: www.145.eaachapter.org

EAA National website: www.eaa.org

Riverview Facebook: www.facebook.com/pages/Riverview-Airport/115468211816419



DUES ARE NOW BEING COLLECTED

Dues of \$35.00 are payable to "EAA CHAPTER 145" and can be mailed to Bob Swietek at the address listed at the end of the newsletter or brought to the monthly chapter meeting. If you need to make any updates on your contact information, please include the tear-off slip for member data and update with your payment.

UPCOMING EVENTS

May 12	Riverview Airport (08C)	Meeting – ‘Back to the Cockpit’ – Gus Hawkins
May 19	Brooks Field (RMY)	Dawn Patrol Fly-In Breakfast
May 19	Ottawa Executive (Z98)	Fly-In Breakfast
May 26	Fremont (FFX)	Dawn Patrol Fly-In Breakfast EAA#578
June 2	Grand Haven (3GM)	Dawn Patrol Fly-In Breakfast
June 3	Coldwater (OEB)	Dawn Patrol: Branch County Memorial Airport
June 9	Riverview Airport (08C)	Meeting –
June 10	Lee Bottom (64I)	Lee Bottom "Sinful Sundays"
June 10	Mason Jewett (TEW)	Dawn Patrol Fly-In Breakfast EAA#55
June 21-24	Park Township (KHLM)	Paramotor PPG Fly-In
June 29-Jul 2	Watervliet (40C)	Watervliet Fly-In / Camp-In Weekend
July 1-5	Battle Creek Airport	Battle Creek Airshow & Balloon Festival
July 23-29	Oshkosh (KOSH)	OSHKOSH!!!!
Aug 18-19	Chicago, IL	Chicago Air & Water Show
Aug 29-Sept 3	Ottumwa, Iowa	Antique Airfield Fly-In www.antiqueairfield.com
September	Michigan Air Tour	www.michiganairtour.org

If you know of events that should be on the event calendar, please e-mail them to me

If you would like to be on the e-mail list for meeting and event reminders, or if you would like to receive the newsletter electronically, which is full color and delivered days before the print version... please send your e-mail address to: randall.houtman@dematic.com

The 2018 Officers for EAA145:

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Grand Rapids, MI 49546
(676-2951 airdale69@aol.com)

Newsletter Editor, Randy Houtman
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Treasurer’s Report: (as of May 2st)

Liabilities: \$3500.00
Cash: \$95.85 Checking: \$59.00
Savings: \$4986.41 Total: \$5141.69

Website Editor, Bill Willyard
(wqwillyard@att.net)

EAA CHAPTER 145 MEMBERSHIP APPLICATION / RENEWAL FORM

DUES ARE \$35.00 PER YEAR – JANUARY 1st to DECEMBER 31st

Name _____
Co-Pilot / Spouse _____
Address _____
City _____
State / Zip _____
e-mail address _____
Home Phone _____
Work Phone _____
National Membership # _____

Aircraft Owned _____

Projects / % Complete _____

Bring this form to the next meeting or mail to:

EAA Chapter 145 Treasurer
6962 Bridgewater Dr. SE
Grand Rapids, MI, 49546