



EAA Chapter 478
COCKPIT CHATTER
Lexington Park, MD April 2021
A Bronze EAA Chapter



EAA Chapter 478 Monthly Gathering
April 8, 7:00 PM
Topic: Designing a Flying Wing by Brian Link
2021 Chapter Dues are due

In this edition of Cockpit Chatter

From The Top –The latest EAA Chapter 478 Status,
Board of Directors Meeting Minutes –
Treasurer Report – Current Status
Social Committee Report – MD50 Picnic Pavilion
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The Flying/Maintenance Corner – Compression Testing, AQP/AFR Program,
For Sale – Lancair 320 “A” Kit
Chapter Calendar –

FROM THE TOP

Tom Weiss, President EAA Chapter 478

I hope this Newsletter finds you and your family healthy.

The Newsletter is coming out a little early because I will be at Sun-N-Fun and won't have time to publish on the normal schedule.

As with any new year, Chapter Dues are due. We need 20 members to pay dues just to cover the costs of what we pay EAA each year to be a Chapter (\$398 in 2021). Dues are still \$20 and can be paid one of three ways.

- 1. Go to the Chapter Website <https://chapters.eaa.org/EAA478>, When at the Chapter's home page, select "Join or Renew" on the left side, on the next page you can select "Buy Now" and enter your credit card number, this method is using PayPal. PayPal takes 3.7% as a fee for the service.**
- 2. You can mail a check to our Treasurer, Don Byrne at:
12108 Doubletree Lane
Lusby, MD 20657**
- 3. Hand Don Byrne a \$20 Bill when you see him.**

We plan to set up another Poker Run later this month, the intent is to shorten to overall distance required to fly to get all cards. Stay tuned for additional information via email.

We will probably hold a social event at 2W6 in May. This event could be followed by the flyout, planning is still taking place. If you have a favorite flyout location let me know.

The International Young Eagles Day is 12 June. I think with appropriate precautions we can hold an event, the scale of the event will be dictated by both County/State and EAA guidance. More to come as we get closer to June, but for now try to reserve 12 June for a Chapter event.

We are closer to officially launching the Chapter Tool Crib, more info will be coming via email.

Stay safe and I am looking forward to getting together soon.

Tom Weiss

Below are some pictures of a “Chapter Home” that a Florida Chapter has. To me this should be the goal of our Chapter. A facility like this would provide a central meeting place, a place to conduct projects and would be a membership draw. With all of the recent building taking place at 2W6 in recent years, now is probably the best time for the Chapter to accomplish something like this. But I think we need more than yard sales to find the money for a facility like this. Let me know what you think. TAW



The Palm Trees are a nice touce, but I think we can do without them!



2W6 50th (51st) Anniversary Celebration

There has been some discussion about moving some of the events that were planned for 2020 to 2021 for the 2W6 50th anniversary. This is all dependant on the COVID status in the spring, but the hope is that many of the events that were planned for late spring and summer can be run in 2021. Along with this, I expect we will be able to get back into flying Young Eagles, so find those seat cushions and barf bags. The County website is still active and

is <https://www.stmarysmd.com/dpw/airport-operations/anniversary/>



UPCOMING EVENTS

VMC Zoom Meeting 3rd Saturday of each month – Details via email
Young Eagles Day – 12 June @ 2W6
Poker Run – Late April/Early May

EAA CHAPTER 478 MEETING MINUTES

TREASURE'S REPORT

Submitted by Don Byrne

<u>EAA Chapter 478 Financial Report</u> Through 28 February 2021	
Fund	Amount
Petty Cash	\$78.01
Savings	\$439.00
Checking	\$22,038.80
Total	\$22,555.81

SOCIAL COMMITTEE CORNER

Will miracles never cease?

Submitted by Bernie Wunder

The Chesapeake Ranch Estates (CRE) airport (MD50) has been around since the mid-1960s and many of our chapter members now reside at this private airport in Calvert County. When the airport was first established, there was a pilot's lounge and the airport also sold fuel. But that stuff disappeared over the years. I always thought that a pilot's lounge would be a great addition to the airport and so a few years back started looking for options.



The Boys & Girls Club had built a mult-thousand-dollar complex of three mobile trailers on the local water company's land. Then they abandoned it. The water company wanted to get rid of it and it was free for the asking. They would even contribute \$15K towards moving it about 3 miles from the water company site to the airport. This complex had A/C, handicap bathrooms, a kitchen, conference room, office spaces and more. It would have made a great pilot's lounge, workshop, and storage area. But then the bureaucracy kicked in. Amenities at CRE, such as the airport and campgrounds, are zoned commercial and require

commercial permits by the county to do anything. Moving the trailers to MD50 would have cost multi thousands of dollars to meet the engineering, ADA, and other requirements. We were advised

to just build a simple pole barn/pavilion and go from there.



Two years ago, we obtained some estimates for a 20'x40' picnic pavilion and started raising money to build it. We accomplished that goal through donations and yard sales. But then the bureaucracy kicked in again. When we went to get the permits, the commercial building requirements looked like they would double the price. WE WERE BESIDES OURSELVES! We were now looking at an awfully expensive picnic pavilion. But then the miracle happened. We found a charitable fund that we could apply to get additional funds we needed since we did educational things with youth such as the Young Eagle flights.

Construction started a couple of weeks ago and we now have our picnic pavilion. It will have a concrete floor and I can give a final update next month. Persistence paid off, but as they say in the west, it was not easy!

YOUNG EAGLES CORNER

Young Eagle Coordinator – Darryl Crawford

2019 Statistics

Year	Flights	Year	Flights	Pilot	Young Eagles Flown 2020				Total
1992	6	2008	51	Attebury, John				MISC	0
1993	54	2009	113	Bray, Buck					0
1994	44	2010	156	Byrne, Don					0
1995	79	2011	187	Carruthers, Steve					0
1996	89	2012	242	Crawford, Darryl					0
1997	90	2013	79	Farry, Kristen					0
1998	47	2014	127	Frech, Egon					0
1999	23	2015	248	Gambacorta, Paul					0
2000	113	2016	206	Gates, Don					0
2001	94	2017	205	Harvey, Ed					0
2002	90	2018	209	Hollady, Mark					0
2003	101	2019	112	Kornacki, Troy					0
2004	66			Lightstone, Bob					0
2005	138			Moody, Chris					0
2006	97			Nelson, John					0
2007	122			Piercy, Jake					0
TOTAL	1253	TOTAL	1935	Surfield, Ron					0
GRAND TOTAL		3188		Szelc, Jerry					0
				Wunder, Bernie					0
				Totals	0			0	0

THE HOMEBUILDER'S CORNER

THE FLYING/MAINTENANCE CORNER

For anyone flying a Lycoming engine, the Lycoming Service Instruction below is important to you. Take particular note on the specific call out for the orifice that is required to be in the compression tool to get valid readings. I always knew there was a orifice size requirement, but never knew the length or the inlet angle were important. You might all know this, but it was the first time I saw it called out. TAW

TEXTRON Lycoming

652 Oliver Street
Williamsport, PA 17701 U.S.A.
717/323-6181

**SERVICE
INSTRUCTION**

DATE: September 28, 1998

Service Instruction No. 1191A
(Supersedes Service Instruction No. 1191)
Engineering Aspects are
FAA Approved

SUBJECT: Cylinder Compression

MODELS AFFECTED: All Textron Lycoming aircraft engines.

TIME OF COMPLIANCE: As required to determine cylinder compression.

The condition of the working parts in the combustion chamber of a cylinder can be determined by measuring the static leak rate of the cylinder as compared to the leak rate through an orifice of specified size. This is accomplished by attaching a differential compression measuring device, which incorporates the orifice, to one spark plug hole of the cylinder while the piston is at top center of the compression stroke.

CAUTION

TAKE ALL NECESSARY PRECAUTIONS AGAINST ACCIDENTAL FIRING OR ROTATION OF THE ENGINE.

The piston is held at top dead center by firmly holding the propeller to prevent the engine from turning when air pressure is applied through the differential compression device to the combustion chamber.

CAUTION

USE GLOVES OR RAGS TO PROTECT THE HANDS WHILE HOLDING THE PROPELLER BLADE. ALSO, BEFORE ATTACHING THE COMPRESSION TESTER, CHECK THE AIR SUPPLY REGULATOR TO MAKE SURE THE AIR PRESSURE TO THE CYLINDER IS NOT EXCESSIVE. AIR PRESSURE IN THE CYLINDER CAN CAUSE THE PROPELLER TO TURN; KEEP CLEAR OF THE PATH OF THE BLADES.

To assure that the piston rings are seated, the propeller is moved slightly back and forth with a rocking motion while air pressure is applied; thus providing a more accurate reading. Meanwhile, a second person adjusts the air supply pressure to 80 psi, indicated on the supply pressure gage of the differential compression device. Then, observation of the engine cylinder pressure gage will give an indication of the condition of the parts in the combustion chamber of the cylinder.

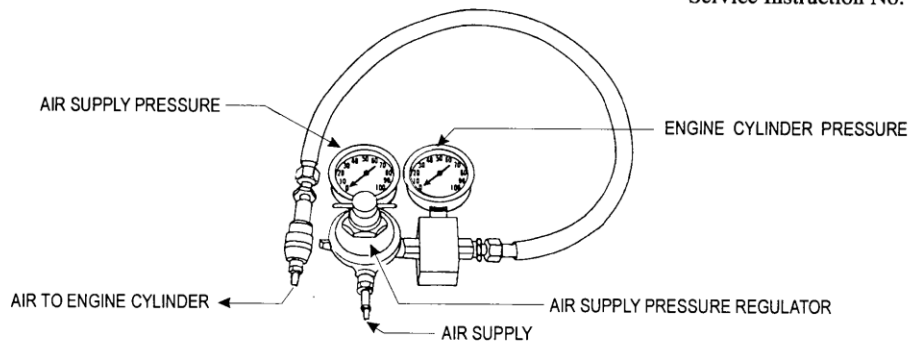
NOTE

The orifice size of the differential compression measuring device is critical if consistent and meaningful cylinder analysis are to be obtained; the larger the orifice the less chance of detecting potential problems. Therefore, a specific orifice size that provides an acceptable leak rate has been selected for all Textron Lycoming engines; the instructions described herein are based on this orifice which is .040 in. dia. (No. 60 drill) x .250 in long, with entrance angle of 59°/60°.

At any time loss of power, increasing oil consumption, hard starting or other evidence of unexplained abnormal operation is encountered, a compression check of the cylinders is recommended with equipment and in the manner described above by personnel experienced with the equipment and with the type of engine to be checked. In practice the procedure is as follows:



General Aviation
Manufacturers Association



Typical Differential Compression Measuring Device

1. Operate the engine until normal cylinder head and oil temperatures are attained; then shut down the engine making sure that magneto switches and fuel supply valves are shut off. Proceed with the test as soon as possible after shut down.
2. Conduct the test in accordance with the test equipment manufacturer's recommendations.
3. Interpretation of the results of the test is highly dependent on the skill and judicious opinion of the tester; however, the following observations cover the principle factors to be noted:
 - a. Pressure readings for all cylinders should be nearly equal; a difference of 5 psi is satisfactory; a difference of 10 to 15 psi indicates an investigation should be made.

NOTE

Unless the pressure difference exceeds 15 psi the investigation should not necessarily mean removal of the cylinder; often a valve will reseat itself and result in acceptable compression during a later check which should be made within the next 10 hours of operation.

- b. If the pressure reading for all cylinders is equal and above 70 psi; the engine is satisfactory; less than 65 psi indicates wear has occurred and subsequent compression checks should be made at 100 hour intervals to determine rate and amount of wear. If the pressure reading is below 60 psi or if the wear rate increases rapidly, as indicated by appreciable decrease in cylinder pressure, removal and overhaul of the cylinders should be considered.
- c. Low pressure in a single cylinder is indicative of air passing by the piston or by the valve.
- d. Air discharged from the breather or oil filler tube indicates leakage in the area of the piston and rings.
- e. Air discharged through the intake system indicates leakage at the intake valve.
- f. Air discharged from the exhaust system indicates leakage at the exhaust valve.

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Below is one page from a long document focused on GA safety with a focus on the Pilot. You won't be disappointed if you go find this document and some of the You Tube videos on GA accident probable cause that go along with it. This is good reading and viewing material for the winter before the good flying weather gets here. I will attach the full document to the Newsletter email. TAW



AQP AFR

Advanced Qualification Program | Annual Flight Review

*This entire document is in reference to the video series on **Aviation101***

LINK: https://www.youtube.com/playlist?list=PLZUuxqwtz5vD7W_eFfnBvXC2l8vUzL9w3G

Purpose: Why do this?

The latest data that summarizes 2018 and 2019 General aviation accidents shows a sharp increase in the actual number of fatal General Aviation accidents. We believe that an overall benefit may be obtained through the creation of this series that may be viewed and shared on a volunteer basis among flight schools, CFI's, clubs, chapters, and individuals. Mostly using social media as a sharing platform and employing the volunteer viewer that can help us by sharing the content locally in their own environment.

So...What exactly is an AQP AFR?

The airlines and most 135 operators of large aircraft operate their own training and testing (all simulator based) under a program called AQP, or Advanced Qualifications Program. Under AQP, each airline gets to decide what to train, and what is on the oral, and what is on the check ride! This is an amazing difference between GA and AIRLINES! These are not check rides like you have ever seen before. The airline record is impressive, (see enclosed summary sheet) as they now train and check all the possible scenarios (called maneuvers) known to be problematic over the course of time.

https://www.faa.gov/training_testing/training/aqp/more/

FOR SALE



Lancair 320 A-kit parts available. If interested contact Paul Gambacorta by phone 480-440-1691 or email paul.gambacorta@gmail.com

CHAPTER 478 CALENDAR OF EVENTS

Date	Event	Location
JANUARY		
FEBRUARY		
MARCH	Poker Run 27 March	
APRIL		
MAY		

JUNE	YE Day 12 June	
JULY		
AUGUST		
SEPTEMBER		
OCTOBER		
NOVEMBER		
DECEMBER		

In the Chocks

Thanks for all of the inputs this month, looking forward to seeing all of you at a Chapter event soon.

Build, Repair and Fly Safe.

Tom Weiss – Editor/President

Cockpit Chatter is published monthly by the Experimental Aircraft Association (EAA) Chapter 478 solely for the dissemination of information and ideas to the membership. Gatherings are held on the Third Tuesday of the month at 7:30 PM in the Patuxent River Test and Evaluation Museum. Membership is \$20.00 per year and requires an active membership in EAA. Any opinions expressed herein are strictly those of the author and do not necessarily reflect the opinions of the chapter or the Experimental Aircraft Association.

Chapter Officers

President: *Tom Weiss 2020-21*

Vice President: Paul Gambacorta 2021-22

Secretary: Gabriel Murray 2020-21

Treasurer: *Don Byrne 2021-22*

Committee Chairs and Chapter Advisors

Social Chairman: *Bernie Wunder*

Membership Chairman: John Cook

Program Coordinator: Paul Gambacorta

Young Eagles: Darryl Crawford/Keith King

Flight Advisors: *Bill Posnett*

Technical Counselors: Sid Wood 2018

Newsletter Editor: *Tom Weiss*

Web Editor: Chris Moody

Tool Crib Committee: Colin Cline/Alan Tolksdorf

Board Members

Sid Wood 2020-21

Darryl Crawford 2020-21

Chris Moody 2021-22

Egon Frech 2020-21

John Nelson 2020-21

Bill Posnett 2020-21

Bill Englehart 2021-22

Chapter Web Address

<https://chapters.eaa.org/EAA478>