

PASO ROBLES PILOT



Monthly Newsletter of EAA Chapter 465- www.EAA465.org

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Next Meeting on March 7 @7pm
Estrella Warbird Museum

See directions below

Presidents Message

By Ralph Richards

Wow! February is almost over. Once again the weather has turned to clear and warmer. Dust off the plane and enjoy the reprieve from winter. The projector arrived, small but powerful. See you at the Warbird museum on Thursday at 7:00 p.m.

Chapter Officers

President: **Ralph Richards**
ralphrichards@msn.com 805-226-9364

Vice President: **Darrell Radford**
radford@tcsn.net 805-238-2509

Treasurer: **Dale Ramey**
mdramey@att.net 805-466-3684

Secretary: **Dale Ramey**
mdramey@att.net 805-466-3684

Technical Advisor: **Mike Laubach**
805-xxx-xxxx

Flight Advisor: **Rod Dykhouse**
n441rd@hughes.net 805-434-2748

Safety Advisor: **Mac Gleim**
mac.gleim@att.net 805-238-6407

Young Eagles Coordinator: **Unfilled**

Web Master: **Phil Corman**
philcorman@hotmail.com 805-227-0480

Newsletter Editor: **Phil Corman**
philcorman@hotmail.com 805-227-0480

Editors Message

by Phil Corman

I wrote an article for another magazine, [The Mooney Flyer](#), and thought it might be interesting to an aircraft owner. I hope you enjoy it in this issue of the [Paso Robles Pilot](#). It focuses on the relevance of compression tests in conjunction with monitoring your engine's CHTs and performing routine bore scope analysis.

"Loss of Control and Upset Training-Interview with Sean Tucker"

Topic: Preventing Loss of Control and Upset Training

On [Wednesday, March 13, 2013](#) at 6:30 PM

Location: Estrella Warbird Museum Thomson Hall

Select Number:

WP1548945

Description:

Learn how to recognize and prevent Loss of Control in flight.

The following credit(s) are available for the WINGS/AMT Programs:

Basic Knowledge 3 - 1 Credit

Advanced Knowledge 1 - 1 Credit

Master Knowledge 1 - 1 Credit

[Click here to view the WINGS help page](#)

In my capacity as **FAA Safety Representative** for Paso Robles, I wanted to notify you of an upcoming seminar. This month, the FAA is planning to have a Safety Seminar on March 13 beginning at 6pm in the Estrella Warbird Museum. It is titled **Loss of Control**. If the federal government lets sequestration occur, then it might be possible that this seminar is

delayed or cancelled. But for now, it is on the agenda. Please join us. It is FREE.

Finally, your **Paso Robles Airport Association** is planning a BBQ on the first or second Saturday of April from 11am until 2pm. This will be a great opportunity to enjoy some BBQ in a hangar and meet a lot of other pilots from Paso Robles, and maybe from other local airports as well. We will finalize the details and get the information out to you as soon as we have it.

Chapter 465 Minutes – Last Meeting

February 7, 2013 Meeting Minutes

Meeting Called to Order - 7:05 PM by President Ralph Richards

Attendance – 9 Members attending, 1 Guest

Old Business – Ralph has ordered a projector; cost \$477. Should be available for use at the March meeting.

New Business – Margaret Viola contacted Ralph Richards regarding hosting the plans for the B-17 Tour.

Dates will be April 29 – May 2, **2014**. Several members volunteered to assist ground operations.

Treasures report – Treasurer reported that the Chapter had \$1,471 in the checking account.

Flight Advisor Report – None

Technical Advisor Report – None

Safety Report – Mac Gleim reported on the Aeronca Champ crash at Cal-Poly a few years ago. FAA determined it was the result of carb-ice, one fatality, VFR weather; an A-36 Beechcraft crash resulting from fuel starvation, failed mechanical fuel pump, electric fuel pump switch in off position; LSA crash in IMC conditions, Pilot had diabetes.

Project Reports – None

Program – None

Meeting Adjourned – 7:50 PM



Compression Tests? What you don't Know, but Should

By Phil Corman

Why do we do compression tests on our airplanes at every annual? Because it's regulatory. Most mechanics agree that it tells you very little about your engine. The applicable regulation -- [14 CFR Part 43 Appendix D](#) (Scope and Detail of Annual and 100-Hour Inspections) -- states that an IA is required to perform a compression check at each annual and 100-hour inspection. It goes on to say that if "weak compression" is found, the IA must perform an internal cylinder inspection to ascertain the reason for the weak compression.

The FARs do not define the term "weak compression." FAA Advisory Circular AC43.13-1B (Acceptable Methods, Techniques and Practices -- Aircraft Inspection and Repair) suggests that compression readings below 60/80 are

considered "weak," but this default FAA guidance is superseded by any specific guidance offered by the engine

manufacturer. Because both Lycoming and TCM do offer specific guidance, AC43.13-1B is moot.

Some Stuff You Need to Know

- A compression test tells you very little by itself.
- Compression will vary from test to test, mechanic by mechanic, the testing equipment, and how you ran the engine before the test.
- A Borescope will tell you a lot more about the health of your cylinder, intake & exhaust manifold, and rings
- Lycoming & Continental have demonstrated that your engine will develop full power at takeoff with minimal compression.

Lycoming Says

Lycoming's guidance is that the inspecting mechanic should "consider" removing the cylinder if its compression is below 60/80, or if there is more than a 10-point spread between the highest and lowest cylinder. Lycoming also encourages (but does not require) mechanics to use borescope inspections to help assess cylinder condition. Lycoming's use of the word "consider" appears to give the IA some wiggle room, but most IAs will take the position that a Lycoming cylinder with compression below 60/80 has to come off.

Continental Says

TCM's guidance is very different from Lycoming's. TCM's guidance appears in [Service Bulletin SB03-3](#), which in my opinion is the best guidance ever written on the subject of determining

cylinder condition. Every TCM owner should download a copy (by clicking on that link) and read it carefully. If you do that, you'll find that TCM says that the minimum acceptable compression reading is to be established using a "master-orifice tool" hooked up to the mechanic's compression test gauges. For most compression test gauges we've checked, the master-orifice tool sets the no-go limit between 41/80 and 43/80. However, each gauge is supposed to be calibrated with the tool prior to each compression test. (Nowadays, many compression test gauges come with the master-orifice tool built right in, so calibration is done simply by flipping a valve.)

SB03-3 goes on to say that even if a cylinder indicates a compression reading lower than the no-go limit, the IA is supposed to inspect the cylinder with a borescope to determine the cause of the problem. If the borescope inspection

fails to reveal a problem, then the cylinder *should not be removed*. Instead, the engine should be flown for at least 45 minutes (preferably a lot longer) and then the compression test repeated.

Borescoping 101

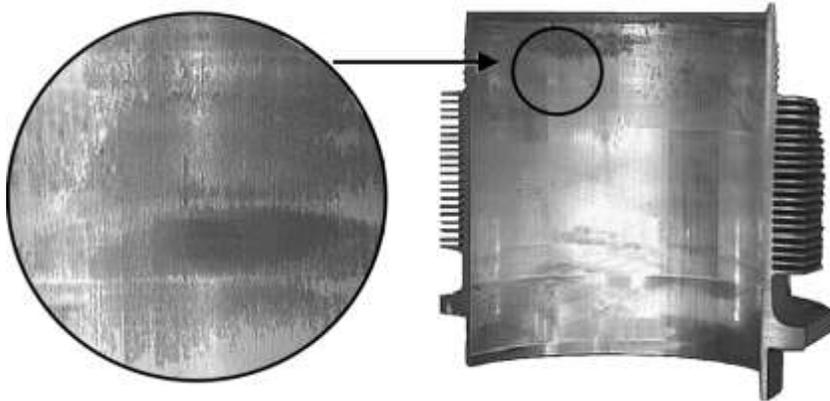
First of all, a borescope is no longer expensive and an incredibly valuable tool to have in your hangar. In conjunction with compression tests, oil filter cutting and inspection, oil analyses (emphasis trends over time), and an engine monitor, borescopes are invaluable. Take a peek at the cylinder head and look at the valves.



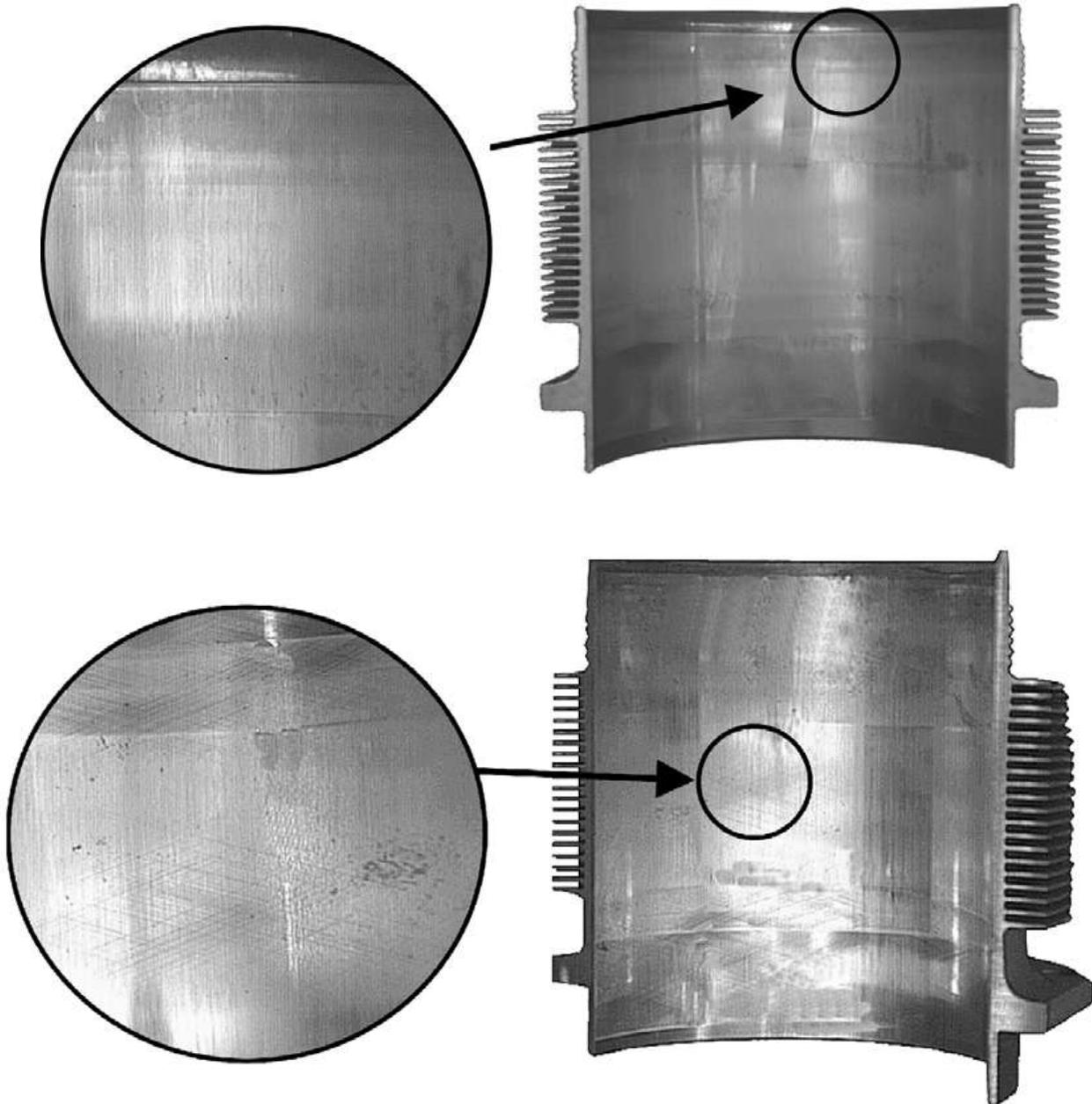
This is a healthy cylinder head. The exhaust valve has a “symmetrical red” pattern that is good. The larger intake valve has brown deposits which is also good.

This exhaust valve is in trouble because of the absence of combustion deposits along the bottom.

Now, let’s take a look at the cylinder walls. This piston is heavily scoring the piston wall. This is not good and may be considered for replacement.



Let’s take a look at another concern. All cylinders have a cross-hatch etched into them at the factory. In the top picture, this honing pattern is missing. This shows wear, but does not mean the end of the world for this cylinder. You can see the cross-hatched pattern in the bottom illustration.



The bottom line is that Compressions vary wildly from test to test, from mechanic to mechanic, from tester to tester and is mostly useful as a litmus paper-like test of problem/no-problem. It is largely performed by mechanics to fulfill FAA regulatory requirements at annual. The borescope analysis along with oil analysis and analysis of your engine monitor will tell you a lot more.



Phil Corman

by

PRAA Update: [Click Here](#) for Details
[Click Here](#) to join the PRAA mailing list.

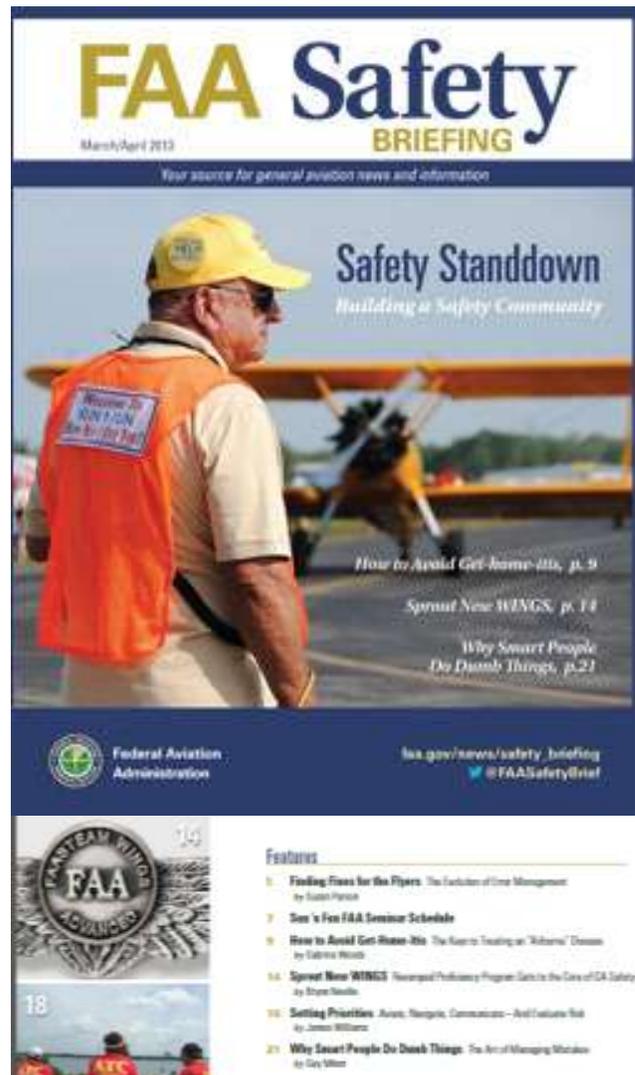
Please encourage your family and friends to join the PRAA by sending an email to philcorman@hotmail.com or [CLICK HERE](#) to join. Our membership has increased from 150 to 181 in just one month. Please join and pass this along to others interested in the airport.

Airport Business Plan – The Paso Robles Airport Business Plan went through a significant revision, Version 2.0 and was presented to the Airport Advisory Committee on February 28th. We received significant review, in this round, from Roger Oxborrow, airport manager, Meg Williamson, Assistant City Manager, and a little more than a half dozen businesses and associations in Paso Robles. We did not receive any review from the Airport Committee. On the other hand, we are very pleased with the involvement from City Staff and from Council Members John Hamon and Ed Steinbeck. They have provided valuable input and strong critiques, and are engaged.

The Business Plan writing team consists of 10 individuals from the PRAA who have contributed greatly in its development. If you would like a copy of the plan, [Click Here](#) and we will send you a copy. Make sure your input is included. We are reaching out the the Museum and the local EAA Chapter 465 this month.

Airport Road Cleanup

We continue to provide regular cleanup of the litter strewn on Airport Road from Highway 46 to Tower Road, and also on Dry Creek, from Airport Road to Nunno. Please consider joining us one morning. The effort was initially 4 hours, and now is closer to 1- 1 ½ hours.



[Click Here](#) to read the FAA Safety Newsletter.

Thought for the Month

You love a lot of things if you live around them, but there isn't any woman and there isn't any horse, nor any before nor any after, that is as lovely as a great airplane.

~Ernest Hemingway, Colliers, 1944

Fly-In Events for this coming month

March 1-2: Arizona Antique Aircraft Assoc.'s 55th annual Cactus Fly-in, Casa Grande, Ariz. Antiques, classics, warbirds. For more information see www.CactusFlyIn.org.



EAA Information

EAA Member Benefits

- EAA Insurance - Aircraft, Non-Owner, Renters & Personal
- EAA Aircraft Financing
- EAA Flight Planner
- Discounts on FAA written tests at LaserGrade
- EAA credit card 10% savings from Aircraft Spruce
- You can save 'hundreds – even thousands – of dollars' on your next Jaguar or other Ford car
- You can buy your John Deere Tractor for less money
- EAA has discounts for Hertz and Enterprise car rentals

Interesting EAA Chapter Web Sites

EAA Chapter 1 at Flabob www.eeach1.org

EAA Chapter 7 at Long Beach www.eaa7.org

EAA Chapter 14 at San Diego www.eaa14.org

EAA Chapter 1000 at Muroc www.eaa1000.org

EAA Chapter 170 @SLO

www.eaa170.blogspot.com

PRB Websites

Paso Robles Airport Association

<http://www.prb-association.com>

Paso Robles Airport

<http://prcity.com/government/departments/publicworks/airport/index.asp>

Corrections – Please send any newsletter comments, corrections, suggestions, or your new e-mail address to:

Phil Corman <philcorman@hotmail.com>

EAA CHAPTER 465 MEMBERSHIP APPLICATION/RENEWAL

Chapter membership dues are \$20/yr. Please help us to verify your personal info.
 Members with e-mail will receive the chapter newsletter via e-mail for their review.
 Members without e-mail can receive copies of the newsletter by mail or at the meetings.
Return the completed form to the Chapter Treasurer, or any Chapter Officer.

Name: *(Please Print)*

Address *(Number, Street, City, State, Zip)*

Email

Home Phone

Cell Phone

Work Phone

EAA National Membership #

Expiration Date *(MM/YYYY)*

FAA Ratings

Student	<input type="checkbox"/>	Glider	<input type="checkbox"/>	Tailwheel	<input type="checkbox"/>	CFI	<input type="checkbox"/>	A&P	<input type="checkbox"/>
Light Sport	<input type="checkbox"/>	ASEL	<input type="checkbox"/>	Seaplane	<input type="checkbox"/>	CFII	<input type="checkbox"/>	IA	<input type="checkbox"/>
Private	<input type="checkbox"/>	Multi	<input type="checkbox"/>	Instrument	<input type="checkbox"/>			Avionics	<input type="checkbox"/>
Commercial	<input type="checkbox"/>	Rotocraft	<input type="checkbox"/>					Other	<input type="checkbox"/>
ATP	<input type="checkbox"/>								

Aircraft Project Underway

I need help in:

Selection Design Construction Other

Aircraft Now Owned

Newsletter: I prefer to receive my newsletter via e-mail , printed via U.S. mail , or at meeting

Special Skills *(That might be helpful to members)*

Payment Enclosed \$20.00

Make checks payable to **EAA Chapter 465**

Please mail this form with payment to:

EAA Chapter 465, c/o Dale Ramey
 7460 Pinal Ave
 Atascadero, CA 93422

Or bring with you to any Chapter meeting

<http://www.eaa465.org/site/index.php>