



MDPA News

Mount Diablo Pilots Association
Buchanan Field, Concord, California

April 2020

media@mdpa.org

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MDPA Calendar Upcoming Events

April 2020

- 4** Breakfast, Safety Forum & Flyout - Cancelled
- 8** Board Meeting
- 17** Dinner Meeting - TBD

May 2020

- 1** Bryce Canyon Flyout - Postponed
- 2** Breakfast, Safety Forum & Flyout
- 6** Board Meeting
- 15** Dinner Meeting

June 2020

- 3** Board Meeting
 - 6** Breakfast, Safety Forum & Flyout
 - 19** Dinner Meeting
-

MESSAGE FROM THE BOARD OF DIRECTORS

March 20th, 2020

Dear members,

All of you with email have already seen the changes in our club schedule (below), but wanted to add to it by saying the Board of Directors is using phone conferencing to stay abreast of developments, especially items that come down to us from the airport management.

Also, the Board is very aware that the average age of the club's membership is in the 60's so we are taking a conservative approach to social gatherings.

- The April 4th Saturday Safety Breakfast is cancelled.
- The May 2nd Saturday Safety Breakfast is an unknown at this time.
- The AOPA Rusty Pilot seminar scheduled for the weekend of April 4th is postponed to an unknown date.
- The Bryce Canyon fly-out scheduled for May 1st is being postponed until this Fall or the Spring of 2021.
- The CCR airport staff has put the clubhouse on lockdown.

Best regards, and be safe.

Rich Cunningham and your Board of Directors

MDPA BREAKFAST AND SAFETY FORUM, SATURDAY, MARCH 7, 2020

The First Saturday Breakfast and Safety Forum last March 7th was highlighted by Norm Brudigam's forum on "maintenance induced failures." Norm led by sharing his experience in responding to the inflight loss of a lower spark plug on his Skylane, which caused an immediate diversion and safe landing at Lodi-Kingdon (O20). Upon inspection, Norm found the spark plug unscrewed from the engine cylinder, and hanging from the wiring harness. The cause? An AMT's failure to torque the spark plug properly after removing it during the installation of EGT and CHT probes. Norm's experience sparked a lively discussion of other maintenance induced failures, and the need for involved ownership to mitigate any problems.



The March 7th breakfast and forum also were, sadly, an early sign of the time we are entering. Attendance was down to only 25 or so, less than half the usual regulars. As this report is being written, your BC has just received the March 16th e-mail from airport management postponing the 12th Annual Tenant Networking Event (previously known at the Tenant Appreciation BBQ) that was scheduled for May 7th, 2020.

In the e-mail, airport management also reported "cancelling all group gathering events" because of the COVID 19 virus. Presumably this includes our next breakfast and safety forum, scheduled for April 4th, the season-opening Young Eagles event that month, and the AOPA Rusty Pilot seminar that was discussed when we met.

The effect of the decision on the April 4th breakfast and safety forum will be confirmed via membership e-mail a week beforehand, when the breakfast announcement ordinarily would go out. Until then, the best to all in the "new normal," your BC looks forward to when we can meet again as a group.

P.S. Shortly after the airport management's e-mail (and after this article was drafted), Contra Costa and six other Bay Area counties issued the three-week (until April 8th) "shelter in place" orders.

ADMINISTRATIVE ITEMS

Director of Airports' Comments

By Russell Milburn, Assistant Director of Airports-Operations

The Assistant Director of Airports-Operations discussed the following items:

- After Maurice presented information on the Rusty Pilot program and the Tenant Appreciation BBQ date, I followed up with stating that the plan was to have the MDPA meeting outside during the Rusty Pilot program and that the Tenant Appreciation BBQ had undergone a name change to the Tenant Networking Event.

While not discussed at the breakfast both of these events have been postponed due to the coronavirus.

- A presentation on the 14L/32R project was next which included discussion of the project phases, impacts to users and answers to questions from club members. The expected project kickoff date is April 20th and it is going to go through September 27th.



SAFETY FORUM

Moderator – Norm Brudigam

Maintenance Induced Emergency

This is a brief summary of the presentation I made at the Safety Breakfast on March 7, 2020. In November 2019 I had an inflight emergency while flying from Amador County Airport (JAQ) back to CCR at 4500 feet in my Cessna 182. I was over Lodi and there was a loud BANG (from the engine) and a strong vibration in the cockpit. My thoughts were that something really bad happened to the engine or prop and that I needed to get the plane on the ground before a second bang occurred (there never was a second bang).

I pulled back the power and reapplied it and realized I had partial power. I was over the valley with lots of flat fields below me and that was reassuring. I used the nearest airport feature on the GTN 750 and selected Kingdon Airpark (O20), which was about 10 miles south of my position. I could have gone to the other Lodi Airport which has more services, but I chose Kingdon because there was less urbanization around it. I was already on flight following so I declared an emergency with Norcal and ATC helped point out the airport which was helpful. They gave me the wind info at nearby Stockton (light and variable) and I was on the ground in maybe 5 minutes. I was able to taxi to parking but the engine sounded very rough like it was coming apart. Once on the ground, Norcal asked another plane to contact me to confirm that I was safely on the ground. That plane relayed the message to Norcal and I never heard another word about the declaration of an emergency from the FAA (which is good).

Once on the ground, I removed the upper half of the cowling and noticed the lower left middle sparkplug was hanging by the ignition wire. That was the source of the problem. I assumed that the cylinder head broke apart but could not see under there without removing the lower half of the cowling. It was getting dark and Rick Arias came to the rescue and gave me a ride back to CCR.



The next day I went to the airport with my wife and some tools and removed the lower cowl. I received a lot of help from the local pilots there and the airport caretaker "Don" (this is a private airport). Upon closer inspection, the cylinder head was intact, the sparkplug hole was intact, yet the spark plug was not in the hole. After looking into the cylinder with a borescope and doing a compression test with my thumb over the spark plug hole it seemed like the cylinder was normal but just needed a new spark plug. The old spark

plug that was hanging from the ignition wire was damaged at the end, it appeared as though some welding had taken place at the tip (See pic). Don secured a used spark plug from one of the local pilots who removed it from his plane (he said he was getting ready to change them but still an extraordinary gesture). This is a very friendly airport.

The used loaner spark plug was installed, and everything was normal except for some minor damage to the ignition wire (still passed the mag check). I flew the plane home to CCR and the next day my mechanic looked at it, put in a new plug (the loaner plug was worn), checked the torque on all the other lower plugs and everything checked out ok.

The only logical explanation was that the last mechanic to touch that plug did not torque it properly. The plane had been in the shop about 20 tach hours before the event. Part of the shop work was to install CHT temp probes on all 6 cylinders. The CHT temp probes on the O-470 are about $\frac{3}{4}$ inches away from the spark plug therefore it was surmised that the shop removed the plug and failed to reinstall it properly.

After a lot of emails, the shop acknowledged that all the lower plugs were removed but that the mechanic's notes stated that all the plugs were "reinstalled and torqued". Since the cowling had not been off of the engine in the 20 hours since the plane had been in the shop, it was clear the shop screwed up (at least to me). The only remaining damage is the damaged ignition wire and I am still working with the shop to find a reasonable solution, which seems to be to install a new harness (the shop is resisting the harness solution).

In looking at the literature on this subject an article by Mike Busch entitled "Human Error" (https://www.savvyaviation.com/wp-content/uploads/articles_eaa/EAA_2014-09_human-error.pdf) explains the problem. While 75 to 80 % of aviation accidents are caused by pilot error, about 12% are caused by maintenance error. The primary culprit is "omissions" (56% of maintenance induced accidents) which are mostly caused by "distractions". No real surprise there except that it is more common than you would think. Mike Bush recommends a sterile shop (like a sterile cockpit) when assembling parts. An omission is clearly what happened in my case.

The other article that was discussed was the "Waddington Effect" (https://www.savvyaviation.com/wp-content/uploads/articles_eaa/EAA_2011-03_the-waddington-effect.pdf). Conrad Waddington was a biologist in WW2 and was tasked with the problem of figuring out why 20 of the 40 bombers the British Coastal Command had

were typically grounded due to repairs. Mr. Waddington was a scientist, looked at the data, and plotted the hours flown since the last maintenance versus the “repairs” needed. He determined that most of the “repairs” were needed in the first 10 to 20 hours after the planes came out of the shop from maintenance. The more hours that the plane flew after maintenance, the less repairs were needed. At about 50 hours flown after maintenance the planes were flying great but they had to go back in for maintenance and that caused more repairs after the plane came out of the shop. This is the “Waddington Effect”. He made several suggestions that led to a 60% increase in the effective flying hours for the planes. He increased the time between maintenance among other things, i.e. less is more.

During the group discussion, the group brought up several maintenance induced problems that were real and local. Two members had the same experience of an engine failure due to the connection between the turbocharger and the engine not being tightened.

Beware when your plane comes out of the shop!

We must look out for each other --- MDPA’s “safety culture”.

HOW TO PLAY: All the words listed below appear in the puzzle – horizontally, v diagonally and even backward. Find them, circle each letter of the word and strike it off. The leftover letters spell the WONDERWORD.

AVIATION

G G F R S L E E H W F S T E J
N N L I E P A S H L U N V S A
I I I A I S T E R L E O E I S
N D G T K E A R A E L V R P L
O I H O S V T V A V D L A O O
O L T H I U I F E I I D P R R
L G S E G R D D A N N E U O T
L I R D R N N P E R R I T R A
A A V A E G I S O A C A N E P
B G N I C E L Y T R I R E G V
L R E D C L P I L V C S I R O
I E S A I I O S A F E T Y A Y
M E R K R N G I S E D A O L A
P R S T Y S G N I T O L I P G
Y F A R E S T O L I P L A N E

Aircraft, Airlines, Arrival, Aviator, Ballooning, Blimp, Cargo, Carry,
Civil, Crop Dusting, Design, Evolved, Fares, Flights, Flying, Free,
Fuel, Gears, Gliding, Heavier, Hot Air, Jets, Landing, Larger, Load,
Open, Operation, Patrols, Piloting, Pilots, Plane, Rudders, Safety,
Skies, Skills, Sky, Speed, Training, Travel, Trip, Voyage, Wheels

WONDERWORD: Passengers



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The Mount Diablo Pilots Association is a non-profit organization based at Buchanan Field (KCCR) in Concord, California.

The purposes of the Mount Diablo Pilots Association are:

- To promote good public relations between general aviation enthusiasts and the local community
- To encourage participation in fly-ins and other aviation activities
- To promote safety and educational activities for pilots
- To provide mutual resources of information on flying for members
- To furnish information and support to the Contra Costa Airport Advisory Committee and other governmental agencies concerned with aviation
- To be a proxy on aviation matters of community concern for its membership

MDPA Directors & Officers:

President - Rich Cunningham
Past President - Maurice Gunderson
Vice President - DeWitt Hodge
Treasurer - Elaine Yeary
Secretary - Maureen Bell
Programs/Guest Speakers – Stew Schuster
Facilities - DeWitt Hodge

MDPA Managers:

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Flyout Coordinator – Ron Lem
DART Program – DeWitt Hodge
Members' Aviation Oil Program – Vishal Goyal
Webmaster – Maurice Gunderson
Newsletter - Natasha Doktorova

**The MDPA clubhouse is located at 200 Buchanan Field Road in Concord, California,
*do not send mail to the clubhouse address, use the USPS address instead:***

**Mount Diablo Pilots Association
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