



EAA 196

NEWSLETTER

December 2016

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Welcome!

To the first issue of our Chapter newsletter. It may be a bit light on the variety this month, but hopefully you'll all help solve that issue for the next installment!

To keep things simple we're going to shoot for a bi-annual newsletter for now; one in December and one in June. Suggestions and content will both be VERY welcome! You can send to me at my Yahoo email: mike.smith208@yahoo.com.

We're also looking for suggestions for events for 2017. We still have a number of things on our list from this past year, such as:

- Visit from Ed Urbanowski's Stearman biplane
- Visit the Owl's Head Transportation Museum in Maine
- Visit the New England Air Museum , Windsor Locks, CT
- Visit the Old Rhinebeck airfield in NY
- Visit the Boston ARTCC and/or control tower
- A fly-in at Minuteman Airfield
- Float plane presentation
- Owner maintenance items (what are they, and how to do them), or items you could help you're A&P with.
- Local air traffic controller to speak
- Hands-on experience (drill & rivet, fiberglass, welding, electrical)
- Movie night

We're also looking for information you might have related to Chapter history. Some of the more recent history we may already have, but assume we don't and send any information you have in the way of past newspaper articles, meeting notes, photos and what you have in your own memory cells!

Young Eagles Events

60 Young Eagles were flown on October 8 & 30

Nels Anderson = 14	Doc D'Errico = 4
Lee Cooprider = 2	Mark Hubelbank = 4
Richard Corley = 5	Philip Mahler = 5
Jim Ellis = 12	Michael Smith = 5
Bob Glorioso = 7	
Andy Goldstein = 2	

Another 32 Young Eagles were flown November 12

Nels Anderson = 2
Doc D'Errico = 11
Andy Goldstein = 9
Pablo Hopman = 6
Mark Hubelbank = 4

And the count for the year was 184 Young Eagles flown by 16 pilots.

Nels Anderson = 27	Michael Smith = 15	Geoff Lull = 6
Lee Cooprider = 5	Doc D'Errico = 18	Fred Moses = 6
Richard Corley = 15	Mark Hubelbank = 19	Graeme Smith = 2
Jim Ellis = 25	Philip Mahler = 5	Devan Wiebe = 2
Bob Glorioso = 13	Pablo Hopman = 6	
Andy Goldstein = 18	Ted Johnson = 2	

October Chapter Presentation: Mid-Air Over 6B6

Notes by James Ellis, edits by Jonathan Wood

1. Mr. Jonathan Wood, who was originally from New Zealand, began showing photos from his father's life as an aircraft mechanic first for the Auckland Aero Club starting in 1930 and later as a ground-crew supervisor for the Royal New Zealand Air Force. The photos of the Auckland Aero Club fleet of 5 open cockpit Gypsy Moths and one closed cabin Puss Moth were interesting. The photos of the RNZAF World War II fleet at Ardmore airfield outside of Auckland largely showed an appalling number of crashes and ground incidents, with a large number of airplanes (mostly P-40s, Corsairs, and C-47s) running into one another on the ground and chewing up the other with their propellers, as well as in the air. Wood said that his father had told him that during one 365 day year during World War II, there were 366 incidents or accidents doing substantial damage to an aircraft!

One photo showed a C-47 that had survived a mid-air collision with another aircraft despite losing most of the outer half of its left wing. (The other plane crashed, although 4 of 5 crew members had succeeded in bailing out.) Wood used this photo to lead into a discussion of his own mid-air collision.

2. On April 16, 2016, Wood took off in his 180 hp Cessna 172 from Runway 21 at Minuteman and made a left turnout to head northeast for a trip to his Bar Harbor, Maine home. As he neared 3000 feet, he tried to contact Boston Approach on 124.4 for Flight Following services, but was unable to get through to them due to congestion on the frequency.

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a. He became aware of another aircraft above him. He felt a slight impact, which he described as "like a tennis ball". He throttled back. He said the other plane had come from above and behind to the right at his 4 o'clock position, with the other plane crossing from his right to left and descending slightly. He said he then saw the other plane beside him, and that the other plane, also a Cessna 172, crossed in front of him looking at his plane.

b. He said he knew his plane had been hit, and looked out at the wings, ailerons, and flaps, all of which looked normal. He said the plane felt like it was flying normally. Despite probably still being within line of sight of Minuteman, he said he felt the airspace he was in was dangerous and he decided to continue on to Maine. (He was still a low time pilot with only 120 total hours at that time.)

c. On arrival he found a ¼ inch deep dent approximately 3-4 inches across on the top of his left wing (likely from one of the other Cessna 172's main gear tires, although there were no rubber tire marks in the dented area, so it could have been from the rear fuselage hitting his wing). There were also rows of scratches diagonally across his wing. These scratches matched up with the metal ridges on the elevator of the other 172, which was later found to have minor damage to its elevator. An A&P inspection showed that Wood's aircraft was in airworthy condition, and required no repairs of any kind.

d. Wood's presentation was not clear on how and when he contacted the FAA or NTSB, but he said he did so sometime after his arrival in Maine. He said that FAA gave him some hassle over not landing sooner. It was also not clear how he obtained the information on the other plane (he had gotten it's N-number in the air), but he said it was an instrument training flight out of Hanscom Runway 23 making a loop west then north then east for another instrument approach back into 23. There was a student using a hood in the left seat and an instructor in the right seat.

e. He said that shock (which he described as possible Post Traumatic Stress Disorder, PTSD) set in after he was in Maine, and that he had difficulty doing work during the next 10 days.

f. Wood had a detailed listing and timeline for the conversation between Boston Approach Control and the other aircraft before, during, and immediately after the incident occurred, which he obtained from the LiveATC website. (Chapter members cautioned him that his times on the timelines might be off by 3-5 minutes due to latency within the LiveATC program.) He noted that the recorded conversations showed that Boston Approach had twice cautioned the other 172 to look for his aircraft.

g. He said that his analysis of all available information showed that the other aircraft was approaching his from above, behind, and to the right, and crossing from his right rear to left front. He said his aircraft would have been below and to the left of the other aircraft. This would have likely made it impossible for the instructor to have been able to see his aircraft through the student's hood. (Chapter members noted that after the second radio call from Boston Approach, it was irresponsible for the instructor not to have told the student to remove the hood and to both look for the aircraft they had been warned about.)

3. A discussion followed on what could have been done to avoid this mid-air collision, including other flight paths, contacting Air Traffic Control on other frequencies, and having onboard traffic alerting such as TIS and ADS-B. It should be noted that this was NOT an incident involving the Hanscom ILS 11 course north of Minuteman. In September, the FAA put out a letter warning of traffic congestion northeast of Minuteman. The letter includes no real recommendations.

Thank you to Mr. Wood for sharing a very personal and very difficult story!

PROP STRIKE!

I have a plans-built Sonex tail dragger with an 80 hp AeroVee 2.1 engine, and had an all-composite ground-adjustable Sensenich propeller.

On March 1, 2016 I flew an hour from Minuteman (6B6), to Nantucket island (ACK) to attend a morning meeting. I would be flying home in the afternoon. The winds were forecast to top out at 14kts, decreasing as the day went on. With crossing runways at Nantucket that was OK per my personal minimums.

When I got near the island and got the ATIS, the winds were 14kts and gusting. The control tower told me the current winds were 14 gusting to 20. Yikes. I didn't like that gust factor. But the winds were from 31 and I was landing on 33, so not bad.

I made a perfect wheel landing and rolled to the end of the runway. The tower told me to take a left turn on the crossing runway 24 to taxi to parking. I was moving at a slow walking pace. The winds were now 70 degrees off my nose. For taxiing I learned to hold the stick to "climb into, and dive away from" the wind. So I had the stick back and to the right, which puts the elevator up, and the right aileron up. That should help keep the gear on the ground. The cross wind was causing the tail wheel to skid uncomfortably, but I was nearly to the parking area. Suddenly I heard a wind gust and the tail lifted into the air until "WHAP!" the prop struck the ground.



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The airplane settled back on its tail and I called the tower to tell them what had happened. The response was, "What?!" So I repeated that I had a prop strike and was stopped on the runway. What I almost said was, "I'm dead on the runway," but fortunately I caught myself before I did.

The airport facilities people came out in their truck to help. One prop blade had broken off and departed the area. We found it about 200' away in the grass. The other blade was still attached to the hub, but the tip was cracked through. Well, I had previously been considering a different prop, but this wasn't what I had in mind as the tipping point.

I pulled the airplane to the tie-downs so I could at least get to my morning meeting. I had to fill out a quick report at the Fire/Rescue building. I did not have my canopy cover with me and so I knew I would need to put the plane in a hangar until I could get back to the island with my cover. \$50/day for a hangar! Note to self: when traveling, carry a canopy cover. (The Sonex is a VFR aircraft, and its canopy is not water tight, especially at the trailing edge of the canopy. So a cover is required to keep water out when it's outdoors.)

During the day I emailed with and then spoke with the folks at Sonex to ask if a tear-down was in order. Since the engine did stop from the strike (even though it made at least a half revolution after the first blade struck), we both agreed that to be on the safe side either having the crank inspected, or replacing it, was probably in order. Either way requires tearing down the engine.

With that decision made I finished my meetings and took the ferry to the mainland, which is 2 hours from my home. My wife picked me up and I started looking at ferry schedules so I could take my car over and retrieve the engine the next weekend.

A prop strike, no matter the damage to the engine, is not a reportable incident to the NTSB (per NTSB Section 803), and no report is required to the FAA (only the NTSB) even if it were. So I did not talk to anyone at the NTSB or the FAA. I'll save for another time, the story of how the FAA got involved anyway.

As soon as I got home I got online and ordered my parts: new crank, crank main bearings, cam gear (just in case), Sensenich fixed pitch prop (8-10 week lead time), spinner (the ground-adjustable had its own spinner), and a rear oil seal. Sonex put a rush on it since it was costing a lot to keep the plane on the island. I did not order a prop hub or timing gear because I have an arbor press at home and have used it before to separate the prop hub and timing gear from the crank.

The weekend after the event me and my friend Dave took my wife's station wagon on the vehicle ferry to Nantucket (\$280 round trip!) with all my tools and my home-made engine hoist (made of 2x4's and a 2x8 cross member with a light-weight chain hoist from Harbor Freight). Since the plane was already in a hangar we did the work there. We drained the oil, disconnected everything and put the engine in the car. Having done the engine removal several times before for various reasons, we had it removed and in the car in 90 minutes.



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Now that I had my canopy cover with me we took the plane over to the tie-downs to leave it there, where the cost was only \$10/day instead. As we did that I noticed that the rudder was very close to the tail wheel. Upon further inspection I found that the titanium tail wheel rod was bent at the point that it exits the steel bracket that attaches it to the airframe. The tail wheel and steering were useable, but the rod would need to be bent back into shape, or replaced. Since it was operable I decided I'd leave that until a future date.



We left the island and took the engine home. The next day I began to disassemble the engine. When I went to remove the gland nut at the back of the engine I found the entire crank was turning, but the prop hub was not! Immediately I thought the crank had indeed broken at one of the main bearing journals. If you've disassembled a VW you'll know that if you can't hold the end of the crank from rotating, then you can't get the gland nut off. So I had to disassemble the engine until I could split the case and remove the crank. When I did, I found that the crank was not broken, but that the prop hub was turning on the end of the crank. That meant the woodruff key that aligns the prop hub and crank, and also holds the hub in place along with the shrink fit, must have sheared.



So the crank was probably fine, but short of having it tested (which takes time and money) replacing it was still going to be the fastest and best way to proceed. Now that the crank was out, and I had decided not to reuse it, I could put it in a vice so I could get the gland nut off. It takes about 300 ft/lbs of force to remove it. With that done I used my 6-ton Harbor Freight arbor press to press off the prop hub, and a gear puller to pull off the timing gear. Upon inspection I found that the forward woodruff key was indeed sheared, but that in doing so it had scored both the end of the crank and the inside of the prop hub.

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Maybe it would be OK to reuse both, but I didn't think so, so I got online and ordered a new prop hub and bushings. That meant more time to wait for parts. Damn. But it did vindicate my earlier decision to buy a new crank.



In two evenings I had the engine apart and cleaned up. Now I just had to wait for the new parts. And I couldn't proceed at all until the new prop hub was installed. And again to Sonex's credit they put a rush on the parts and I had everything by the end of the week. It took me three tries to get the shrink-fit prop hub fully on the crank, so that set me back another day. (For each try you have to put the crank in the freezer over night, and put the prop hub in the oven for a hour at 500 degrees).

It took me two evenings to get the engine fully back together and ready to go. That was a Sunday and a Monday. I had already booked the ferry for a Tuesday crossing, so I really had to finish Monday night!

A word about my friend Dave Plathe. 19 years ago he was flying right seat in the Cessna 172 that took me and my (future) wife out for a \$100 hamburger to... Nantucket island! That was the night I decided I had to get my pilot's license. For various reasons I have had to remove and disassemble my AeroVee on a couple of occasions. In just about every case Dave volunteered to be there to help. He knows how to remove and hang that engine just about as well as I do. Every time I needed help he was there. So THANKS DAVE! By the way, he bought a completed Waix last year, and after doing some work on it over the past few months it is almost ready to fly.

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Tuesday at 6:30 in the morning Dave and I loaded the engine and tools into the car and headed for the ferry (another \$280 round trip). It was a rainy morning and rather windy. That isn't good for ferries. Sure enough when we got there we found the 9:15am ferry had been cancelled due to high winds. We were booked on a standby basis for the 2:15 ferry. We had already planned to spend the night on Nantucket, so this would just mean a late start and working into the evening. But for even that to work we still needed to get there today!

We spent the next 3 hours looking for things to do in Hyannis on Cape Cod. We went to the local mall and had an early lunch. We went to the Cape Code Potato Chip factory and went on the self-guided tour of the plant. Very interesting, but it only killed a half hour.

Since standby status is first-come-first-served we got in line with our car at 12:30. We slept in the car until the ferry began to load up at 2:00. After much tense waiting as the pre-booked vehicles embarked, we finally got the go-ahead to get on. There were only 2 other vehicles behind us that got on. We were sweating it!

The ferry ride over takes just over 2 hours, so around 4:30 we arrived on the island. We checked into our hotel (another \$175) and headed straight for the airport. We had packed bag lunches so now they would be our dinners. The airport staff got us into the hangar and we got to work.

Getting the engine on the mounts only took 11 minutes. It took us another 5-1/2 hours to get everything hooked back up and tie-wrapped. Since my new prop was weeks away, I had borrowed the prop off another AeroVee Sonex, and we attached and torqued it. We cleaned up and left the hangar just after midnight.



We headed back to the hotel, showered and fell asleep. We got up at 7:15, had a quick continental breakfast, and arrived at the hangar about 8:30. We added oil, did a final gapping of the valve rockers, and gave everything the once over. We opened the hangar door and did a run-up. The engine started right up and all the numbers looked good. It was running too rich and so wanted to quit if I didn't get the mixture knob in the right place. That would just take a mixture adjustment at the AeroInjector carb, which I made later. Other than that the engine seemed to be OK, with no leaks.

The plan had been for Dave to take the 11:30 ferry and drive the car back home. I would fly the plane off the island that afternoon, as the weather was supposed to improve. Dave did catch that ferry, but the weather never improved. The weather for the next day looked like it was going to be good soon after sunrise so I got another room for the night and did a lot of reading that afternoon and evening. I got to bed early, got up at 5:15, got a cab to the airport, and was at the hangar by 6:30. I did another run-up and found the mixture still wasn't quite right, so I made another tweak. Now it seemed about perfect. I taxied to a tie-down to wait for the good weather to arrive. Well guess what, it wasn't improving. 600' ceiling with mist. On the mainland everything was clear, but on the islands it was garbage.

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I had to decide whether to continue to wait for the weather that was supposed to improve at any moment, or to call it quits. Cape Air is a small commuter operation that flies between the island and either Hyannis or Boston. It was \$135 to fly to Boston. It was going to cost more than that if I had to stay in a hotel, and I'd miss another day of work. So I decided to cut my losses and get out of there. I flew to Boston (where the weather was excellent) and had my wife pick me up. I got to work that afternoon and got in a half day. By the time the weather broke on Nantucket (7 hours after forecast!) new storm clouds and 30 kt winds blew across the mainland. I made the right call! It was Thursday.



Saturday looked like it was going to be a very nice day, so Fred Moses from my EAA chapter was kind enough to agree to fly me to the island Saturday afternoon. I would have gone in the morning but I had my BFR scheduled in a Citabria from 8am to noon, and I didn't want to miss that! So I finished my BFR by noon, grabbed a quick lunch, and then flew to Nantucket in a Cessna Skylane. We got there just before 2:00. The sky was clear and the ground winds were 10 kts. The winds at 3,000' were 25 kts out of the west (my direction of travel), and even stronger at 6,000'.

I fired up the engine, did another run-up, and decided to taxi out. I requested to remain in the pattern and make a low pass so I could verify the engine at high and low power. Everything was perfectly in the green so I headed west, climbing for 4,500'. If you look at a map of the area the most direct route is north-west toward Hyannis on the Cape. But that takes me over 23 miles of open water. So I opted to island hop, going from Nantucket, over two small islands to the west, then over the big island of Martha's Vineyard, just 6 miles further. After MV it was another 3 miles or so across open water to the mainland, and then I made a bee line for home. The winds were honkin' so I went down to 3,000' where it was bumpy, but with less head wind.

1.4 hours of flight time later, and 18 days since the prop strike, I arrived back to my home airport of Minuteman Airfield in Stow, MA.

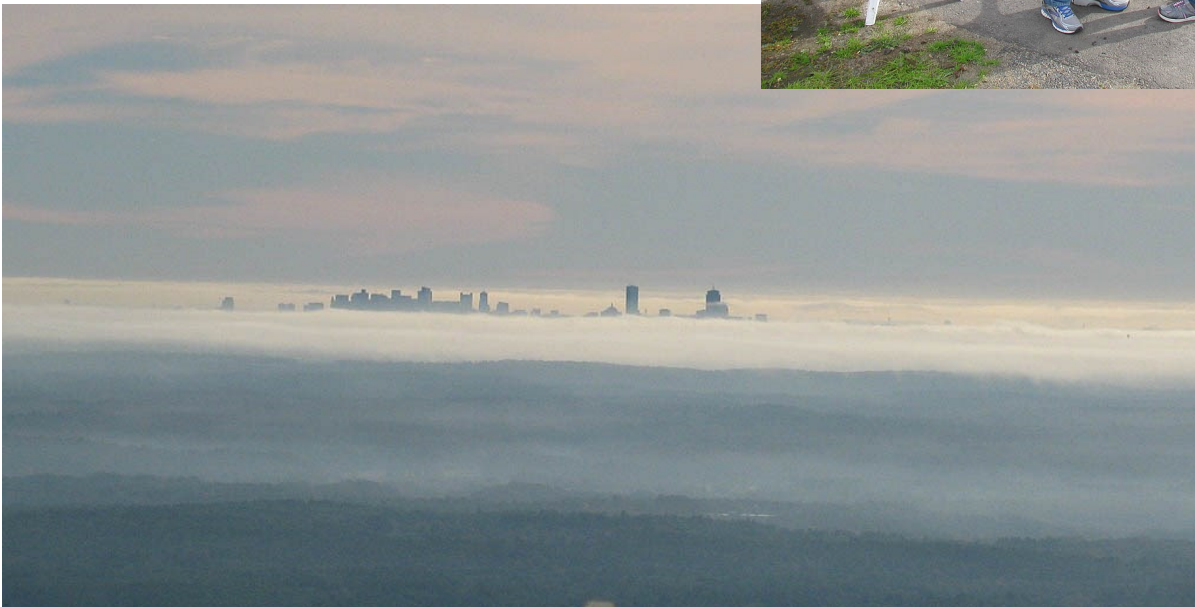
A week later I fixed the tail wheel. The rod that holds the tail wheel assembly is solid titanium. I removed it, put it in my arbor press, and took out the bend. One bend back is not going to work harden the metal to any great degree, but if it ever gets bent again (I hope not!) then I would probably replace it instead of bending it back once again. The tricky part of replacement is that homebuilt parts like this are one-off pieces. Although you may think you drilled the anchor hole directly centered in the rod, maybe it's off to one side or the other by 1/32". Or it might be drilled at 89 degrees to the face of the rod. In either case you can't get the bolt (which is a tight fit with no slop) to align with the existing holes in the support bracket tube and the tail wheel rod. So you need to also replace the support bracket to get the holes to align. That support bracket is riveted and bolted in numerous locations, and requires a great deal of disassembly to remove. It's no small task!



So what did I learn? Several things.

1. I will reconsider ever flying to an island in my personal plane again. It's just not worth the "what ifs." I'll fly a rental plane there, but mine?
2. 20 kt quartering winds are beyond the capacity of a tail dragger Sonex to handle. If there is any chance of those kinds of winds, then stay home (had they been forecast that way I would have).
3. Winds and weather on an island are far less predictable than on the mainland. Refer again to lessons #1 and #2.
4. The blessing of a VW engine is how easy it is to remove, repair and reinstall. Not to mention the low cost of parts and ownership. Not including the prop, all my parts together were about \$1,000. The insurance agent couldn't believe it. He said you can barely get a package of screws for that price for a certified aircraft.
5. I know I was holding the controls in the proper direction for the given winds, but it still reinforces that you **MUST** know how to position the stick during taxi in a tail dragger. Any tail dragger.
6. If I inadvertently end up in conditions like this again I'll simply shut down the engine while still facing into the wind, and pull the airplane to parking. At an uncontrolled field that's an easy decision to make as long as it's safe. At a towered field, they are probably going to get mad at you when you tell them your intention to leave the aircraft and walk it away, but who cares? It's my plane and my decision.
7. On trips, even day trips, consider carrying a canopy cover just in case.

CHAPTER PHOTOS



CHAPTER PHOTOS



QUESTIONS? Contact Jeff Adair at jadair@wickedlocal.com or 508-626-3926.

SALUTE THEIR SERVICE

Young Eagles

Tell us about your favorite veteran

Veterans Day is approaching and as we gear up to honor the military men and women who have bravely served our country, we're asking you to tell us about your favorite veteran. Share their story with us and send us their photo, and we'll salute them on your Wicked Local website and in your weekly newspaper.

Please email a photo of your favorite veteran along with a write up including their hometown, branch of military and rank, and time of service and war or conflict during which they served to beaconvillager@wickedlocal.com. Photos should be sent as .jpg attachments and should include a caption with the veteran's name, hometown and military information.

We'll take your Veterans Day submissions right up until the eleventh hour of the eleventh day of the eleventh month (Nov. 11). For more information call 781-937-4560.

Pilot Mike Smith, of Maynard, poses with a newly minted young eagle at the Young Eagles Flight Rally at Minute Man Airfield in Stow. COURTESY PHOTO.

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CHAPTER PHOTOS (2016 Holiday Party)



Congratulations on the upcoming wedding!

CHAPTER OFFICERS FOR 2017

President: Hector Constantzos

Vice President: Mark Saklad

Treasurer: Andy Goldstein

Secretary: Michael Smith

Young Eagles Coordinator: Andy Goldstein

IMC Club Coordinator: Chris Brandon

SPECIAL NOTE

On a sad note, this month we say farewell to Greg Sheets, who is moving to North Carolina, and eventually to an airpark dream-home in Georgia. We wish you, your family and your horses all the best in this new chapter of your lives!

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January 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 New Year	2 New Year's Holiday	3	4	5	6	7 8:30 Hangar Talk Breakfast
8	9	10	11	12	13	14
15	16 Martin Luther King Holiday	17	18	19	20	21
22	23	24 7:00 IMC Club Meeting	25	26	27	28
29	30 7:00 EAA 106 Chapter Meeting	31		4		

February 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 8:30 Hangar Talk Breakfast
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20 President's Day	21	22	23	24	25
26	27 7:00 EAA 106 Chapter Meeting	28 7:00 IMC Club Meeting				

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March 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4 8:30 Hangar Talk Breakfast
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27 7:00 EAA 106 Chapter Meeting	28 7:00 IMC Club Meeting	29	30	31	

April 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 8:30 Hangar Talk Breakfast
2	3	4	5	6	7	8 9:00-12:00 EAA 196 Young Eagles
9	10	11	12	13	14	15
16	17 Patriot's Day	18	19	20	21	22
23	24 7:00 EAA 106 Chapter Meeting	25 7:00 IMC Club Meeting	26	27	28	29
30						

December 2016

May 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6 8:30 Hangar Talk Breakfast
7	8	9	10	11	12	13 9:00-12:00 EAA 196 Young Eagles
14 Mother's Day	15	16	17	18	19	20
21	22	23 7:00 IMC Club Meeting	24	25	26	27
28	29 6:00 EAA 106 BBQ & 7:00 Chapter Meeting	30	31			

Memorial Day

June 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3 8:30 Hangar Talk Breakfast
4	5	6	7	8	9	10 9:00-12:00 EAA 196 Young Eagles
11	12	13	14	15	16	17
18 Father's Day	19	20	21	22	23	24
25	26 6:00 EAA 106 BBQ & 7:00 Chapter Meeting	27 7:00 IMC Club Meeting	28	29	30	