

2020 General Aviation Fatal Aircraft Accident Summary

For January 1, 2020 – December 31, 2020

This report includes fatal aircraft accidents conducted under FAR 91, 137, and Public Use operations.

188 Fatal accidents, 301 lives lost

January 9, 2021

YouTube ***Probable Cause: Dan Gryder***

A copy of this PDF and the associated 2020 XLS data file are available for free at www.DanGryder.com

FORWARD – from the author

Influence. In those years, I was a young and influenceable college graduate with a flying job as a pilot for Wal-Mart Stores – based in Northwest Arkansas. The pay wasn't great, but it was a flying job that included both piston and Turbo-prop operations in day and night conditions, and almost all weather. The Bruno's Grocery chain fatal corporate jet crash had just occurred in Rome Georgia where five of their corporate top executives were lost to a senseless very simple error. From within our company, there came the bulletins and reminders to use this new concept called "CRM" in the Wal-Mart cockpits and a directive to delay flights instead of attempting to complete higher risk flights. In early 1992, the company founder, Sam Walton, died from a form of blood cancer. Sam had been a pilot for his entire adult life, and used small aircraft from his early days on for personal and business travel purposes, starting out first in an Ercoupe, and later working his way up to a Cessna 182. Each of Sam's three sons had also eventually become accomplished pilots, the youngest of which would ironically lose his own life in an experimental aircraft crash in 2005. In the end, Sam's medical condition and his time remaining on this earth were no longer negotiable. While not a writer himself, Sam wanted to accurately chronicle his final days, and hope to create an ongoing lasting influence even after his appointment time had come. It was Sunday April 5, 1992 and his time was up. His book "Sam Walton - Made In America" was authored by writer John Huey and appeared shortly thereafter. I carried the book in my flight bag while flying for Wal-Mart. Many of the people quoted in the book such as his wife Helen, his kids, Glass, Soderquist, and others were often my passengers in routine flights. I read the book several times, with each pass though I underlined or highlighted interesting things that I had not previously considered. Sam was gone, but I had become influenced by the culture of the Walton family, the company, and the genuine unafraid nature of Sam himself. Sam's life theme had revolved around crazy ideas, unconventional methods, and swimming upstream. Chapter 4 was titled "Swimming Upstream" and devoted to that philosophy.

Ch. 4: “This is a big contradiction in my makeup that I don’t completely understand to this day. In many of my core values – things like church and family and civic leadership and even politics, - I’m a pretty conservative guy. But for some reason in business, I have always been driven to buck the system, to innovate, to take things beyond where they’ve been. On the one hand, in the community, I really am an establishment kind of guy; on the other hand, in the marketplace, I have always been a maverick who enjoys shaking things up and creating a little anarchy. And sometimes the establishment has made me mad.” Sam Walton

There is no doubt that I was influenced in those early days by the Sam culture. I am still influenced even today, and my hope is that my airplane accident prevention efforts, and my writings in this document, may somehow provide some light, a change, some improvement, and some influence. You may not know it, but you are also an influencer! I hope that I am able to use the ways that I was influenced in order to influence you, that you may be influenced to share this information that could help someone else. All before my own appointment, and in the time that I have remaining.

With all due respect to the lives, families, and friends of those lost in these preventable fatal aviation accidents.

Dan Gryder

THE ESTABLISHMENT –

Today, in this context, the establishment is the NTSB. It’s a government entity within the department of Transportation called the National Transportation Safety Board. It evolved from the early days of aviation where rules and pilot certifications were non-existent, airplane crashes were mostly commercial operations for hire in some manner, either hauling people, or freight or mail. All airplane crashes were cause for public alarm and the Department of Commerce required detailed investigations. Most early investigations were carried out by the owners or management of the company involved, so often the true cause was written up as “Unknown” in order

to protect companies and shareholders from lawsuits that were prevalent even in those early times. Later, the CAB or Civil Aeronautics Board would oversee the investigations and the term “Probable Cause” first appeared in government print. Many times, there was no solid method of determining what had happened, but the best guess was assigned by experienced and knowledgeable actual pilots and staff of the CAB that had the requisite actual experience. Today finds the NTSB in the roll of determining probable causes, but largely without knowledgeable or experienced staff. Of the more than 430 accident investigators on payroll, very few are actual pilots. The establishment of the NTSB has an annual budget of \$111,625,000.00 (2019 data) and offers the following in print as goals for the NTSB as an agency:

- 1) “The completion of accident investigations in a timely fashion is the agencies number one goal.”
- 2) “Safety recommendations are a focal point of our effort to improve the safety the nations and the world’s transportation systems.”

FOR THE RECORD –

The NTSB operates under the claim of “duty” to investigate aviation accident as specified in 49 USC 1132:

(a) General Authority-

(1) The National Transportation Safety Board shall investigate –

(A) each accident involving civil aircraft.

However, 49 USC 1101 goes on to define the word accident: “In this chapter, the term accident includes damages to, or destruction of vehicles in surface or air transportation or pipelines, regardless of whether the initiating event is accidental or otherwise.”

No GOOD ANSWER - but what's the question? What are the questions?

- 1) Is this timely fashion? Why does it take the NTSB an archaic 22 months on average to complete their "Probable Cause" best guess for each aviation accident? Even for such obvious cases such as the Kobe Bryant crash, the NTSB has already speculated on camera about how close the helicopter came to "miss hitting" the ridge, thereby highlighting how little they as an agency understand about the steep downward path of the chopper in its final seconds. This one is pretty obvious and lives could be saved immediately by increased education, continuing education for pilots concerning Spatial Disorientation – Day (SD-D) and defined as AQP maneuver number 1 in the enclosed accident summary, but the NTSB has said to expect this to take many years. In the case of another high-profile aviation accident, baseball player Roy Halladay lost his life in a fatal crash where video, witness, and toxicology reports were available within days. The NTSB stored the mangled wreckage and finally released their probable cause almost 30 months after the fact. Their conclusion was what we all knew anyway, and McSpadden of AOPA referred to a recent conversation that he had with NTSB Chairman Rob Sumwalt where he said: **"They have video, toxicology, the intact aircraft, so we asked 'Why is this taking two years?' They had no good answer for it."**
- 2) If safety recommendations are a focal point of the agency, (see para. above) why has the NTSB spent \$50M per year during the last 10 years (\$500M total) investigating private non-commercial General Aviation accidents for the last ten years, and yet only produced 5 written safety recommendations? Literally just 5 safety recommendations in ten years from more than 2300 fatal GA crashes. It's the highest financial cost, and the least results. Is the GA fatal accident just job security for the government employee?
- 3) Why does the NTSB openly talk about and discriminate against the non-high profile accidents by giving them less effort and attention than those that are high profile or significant wealth? Who decides which General Aviation accidents are worthy of NTSB investigation? Do you have to be high profile? What is the definition of the word "shall?" Is that permission, or a mandate?

NTSB – How do you score them?

Grade: __ The year 2019 has been over for more than a year now. The NTSB previous year summary report is due not later than November of 2020. To summarize, 2019 has still not been completed. It's Late.

Grade: __ The most recent Nall report summarizes NTSB final reports, but that report can only summarize NTSB conclusions of probable cause once completed by NTSB. The most recent year completed on record to date is the 28th edition which covers accidents that occurred in the year 2016. The NTSB has still not completed reports from the year 2017. This is not timely.

Grade: __ The NTSB recently switched over to a docket system called CAROL, which decreases access and transparency in the industry. In the process of this change over, many aviation accidents were deleted, including most all from the month of October, 2020. The 188 aviation accidents summarized in this report were captured in real time, and entered into an excel spreadsheet as they occurred, independent of NTSB losses. The CAROL System is deficient.

Grade: __ In former years, the NTSB never missed in its congressional charge to travel to every fatal accident site. During COVID-19 in 2020, all NTSB travel ceased on March 15, 2020 with the exception of high-profile cases in Idaho where 8 persons died among a two aircraft midair collision (Maneuver Number 14) and a Bonanza crash in Louisiana where a lawyer died (Maneuver Number 11). Of the 188 fatal aviation crashes, NTSB failed to travel to 155 of these sites. These NTSB investigators are still on full pay and benefits, going shopping and going out to eat with their friends, but travel to an accident site in order to do their work is unsafe? The NTSB isn't doing their job.

HELP WANTED! - The poster from NTSB

A recent article from the number two guy at NTSB offered this recent quote from Vice Chairman Bruce Landsberg where he said:

“Likewise, we need the aviation associations’ ability to reach into the community to get the safety message out. NTSB has limited resources, so we must rely on the community to bring attention to problem areas and potential solutions.” - Bruce Landsberg

It seems that the 430-person salary staff, offices, and \$50,000,000.00 annual NTSB aviation budget over the last ten years that have spent literally \$500,000,000.00 (That’s .5 Billion) need a hand in getting the safety message out. So far, it’s a message that they still haven’t defined. They don’t even have a message. Ironically, in all the waste of inefficient government bureaucracy, the NTSB has failed to put their finger on the fact that the average General Aviation pilot is not capable of inventing new ways to kill themselves. They always pick one of about 22 common methods. What we need is timely relevant independent private sector summaries that can bring attention to the 22 problem areas, and offer potential solutions at the same time.

THE DISCLAIMER –

In the mid 1980’s the commercial Airline industry faced high fatal accident rates and heavy catastrophic losses. United Airlines was the first to embrace the concept of “CRM” and it was soon standard courseware worldwide. CRM is Cockpit Resource Management, a style of sharing ideas in the cockpit and soliciting input from other crew members. The early days of CRM were riddled with hard fought opposition by those that were so opposed to those pilot innovators trying to buck the system and bring attention to this glaring problem area, and that offered a potential solution in this new CRM idea. CRM was effective, but the real diamond in the rough

for the 121 Airline world would later be found by incorporating CRM with AQP. AQP is called Advanced Qualification Program, and it was a new concept (1996) that came from a group of forward-thinking pilots in a group called CAST. Their Airline AQP idea proposed that both pilot training and check rides be conducted based on all new non-standard maneuvers. These new maneuvers were well outside of traditional FAA minimum content, actually making check rides harder, riskier (for the test taker), and longer to complete. As is industry typical, the AQP concept was hard fought by both pilots' unions and company management as too costly and too risky to the pilot. In the end, the accumulation of timely accurate data as to what was causing these fatal Airline part 121 accidents spawned AQP training that manufactured new scenarios for pilots to be aware of, and be trained for. Although CRM and AQP were initially shunned by the skeptics, the results today speak well for themselves. In the most recent 10-year period, Airlines have gone with only a single Airline hull loss, and only 4 deaths among the millions of travelers carried. Today, most all FAA part 121 Airlines fully embrace both AQP and CRM, and very recently, the first FAA part 91K (Net Jets) operator signed up with AQP.

The DISCLAIMER that is applied to this document is that the 188 accidents include those from FAR part 91, FAR part 137 agriculture operations, as well as public use operations. The open admission that there may be errors in the allocations listed of both Pilot Error (Yes / No value) as well as the assignment of the specific AQP Probable Causes number for each of the 188 fatal accidents shown in this fatal aircraft accident summary. However, the General Aviation problem areas, and the potential solutions are clearly evident in the summary.

THE SUMMARY –

Each of the 188 fatal aviation accidents were studied carefully using NTSB preliminary data when available, FlightAware, FlightTrader24, Kathryn's Report, ASN, Google Earth, and more. The data was manually loaded into an Excel spreadsheet in order to generate this summary.

<u>XLS HEADINGS</u>	<u>DESCRIPTION</u>
DATE	Date of the accident
CITY	Nearest city where the accident occurred
STATE	State where the accident occurred
N #	FAA Registration number of the aircraft involved-
CAT / CLASS	Either broad category for all except AIRPLANE, class of airplane for all airplane crashes i.e., ASEL, AMEL, ASES, AMES
MAKE	TRUE / FALSE value indicates whether an NTSB Safety Recommendation was generated because of this accident.
PROF	Profession of the pilot.
PILOT ERROR	Pilot error is defined as an in-flight error, or the improper handling of a survivable mechanical failure.
DAY / NIGHT	Lighting conditions at the time of the impact
VMC / IMC	Visual or Instrument metrological conditions.
AQP #	Defined as AQP maneuver 0 – 22, SUICIDE (S), UNKOWN (UNK) or Darwin (X)
LOSS	Number of lives lost
NTSB TRAV	Did the NTSB travel to the accident site
CERT	The type of pilot's license held at the time by accident pilot. NONE, STUDENT, PRIVATE, COMMERCIAL, AIRLINE TRANSPORT
HOURS	The number of hours accumulated prior to the accident. Experience level indicator.
AGE	The age of the pilot at the time of the accident
GENDER	The gender of the pilot.
IFR	YES / NO Did the pilot possess an Instrument rating at the time of the accident.
VALID MED	What type of medical certification did the pilot have. NONE, BASIC MED, YES (FAA CLASS 1, 2 or 3)
MED FAIL	YES / NO Was there a medical condition that occurred in flight that ceased or reduced pilot capability.

NTSB TRAVELED TO SITE

33 Yes
155 No
188 Total

CAT / CLASS

16 AMEL
142 ASEL
2 ASES
0 AMES
4 GLIDER
4 AUTO GYRO
17 HELICOPTER
2 TRIKE
1 U / L
188 TOTAL

CONDITIONS

167 DAY
21 NIGHT
188 TOTAL

FAMILYS

39 CESSNA
4 SR 20/22
31 PIPER
8 VANS
15 BONANZA
188 TOTAL

CAUSES

5 UNK
160 PILOT ERROR
23 NOT PILOT ERROR
188 TOTAL

CONDITIONS

28 IMC (9 NON INSTR RATED)
160 VMC
188 TOTAL

INSTRUMENT RATED

101 YES
79 NO
8 UNKNOWNNS
188 TOTAL

PILOT AGE

> 79yrs 10 = 5 % OF 188
> 74yrs 23 = 12 % OF 188
> 69yrs 44 = 23 % OF 188
> 64yrs 69 = 36 % OF 188
> 59yrs 93 = 49 % OF 188

The 2020 Aviation General Aviation Accident Probable Cause (AQP #) Summary

<u>AQP #</u>	<u>QTY</u>	<u>TYPE</u>	<u>SUMMARY</u>	
0	4	C-FIT	INCAP -	Suspected medical incapacitation in flight
1	4	C-FIT	SD - D	Spatial Disorientation - Day
2	4	C-FIT	SD – N	Spatial Disorientation - Night
3	1	C-FIT	I-IMC ATO	Intentional IMC After Takeoff by IFR pilot.
4	1	C-FIT	U-IMC ATO	Non IFR pilot makes takeoff into IMC without knowing.
5	4	C-FIT	Buzzing/Acro	Impromptu airshow performance gone bad.
6 (4%)	9	C-FIT	Mishandled Abn.	Any Abnormal that leads to distraction and crash.
7 (12%)	23	C-FIT	Terrain Collision	Unaware of close ground proximity.
8	4	C-FIT	Loss of AHRS	Loss of attitude, heading information in IMC conditions.
9	2	C-FIT	Non Stab App	Approach too high, too fast, not config, etc.
10	4	C-FIT	Out of Fuel	Dead stick landing ends in LOC or fatal hostile terrain.

11 (11%)	21	U-FIT	LOTOT	Loss of Thrust On Takeoff, stall then spin.
12 (22%)	42	U-FIT	Loss of speed Aw.	Flight below DMMS not on takeoff results in stall, spin.
13	3	U-FIT	Vmc Rollover	AMEL LOTOT, Flight below Vmc rolls aircraft inverted.
14	7	U-FIT	Mid-Air	Two aircraft collide in flight
15	3	U-FIT	In Flt Icing	Aircraft ices up in flight and enters LOC.
16	2	U-FIT	Messed up GA	Messed up Go-Around causes LOC.
17 (11%)	22	U-FIT	Mech Failure	Failed preflight, MTC, or airframe component.
18	6	U-FIT	RTO	Failed Rejected Take Off, never rejected.
19	0	U-FIT	Seat slides back	Seat mechanism allows seat to slide back in flight.
20	4	U-FIT	WX-IFB	Pilot penetrates severe WX - In Flight Breakup.
S	3			Pilot Suicide
X (5%)	10			DARWIN AWARD RECIPIENTS
UNK	<u>5</u>			Unknown at this time
TOTAL	188			

Further information and the actual AQP documentation PDF's and video links that further explains these GA AQP categories may be found at www.DanGryder.com

Other notes / possible solutions concerning the 2020 summary data and these defined AQP causes:

- 0) Flying with the new Basic-Med may keep you legal, but if there is a reason that you cannot hold a standard FAA medical, you may be a candidate for in flight incapacitation. 4 planes lost in 2020 due to in flight incapacitation or reduced motor skills in flight.
- 1) Spatial Disorientation, day is not well understood or taught. Previous training (and ATC instructions) teaches pilots to maintain VFR, which is looking “outside” the plane. It is sometimes impossible to “maintain VFR” reference and pilots should be prepared to go hard core on the gauges, including wearing foggles if it helps eliminate the urge to look outside and hunt for the visual reference that is not there. Any pilot is legal to be in the clouds with or without an instrument rating as soon as an emergency is declared by the pilot. See FAR 91.3 Of the four losses in this category, 2 pilots were instrument rated, 2 were not.
- 2) Spatial Disorientation, night is not well understood or taught. Previous training (and ATC instructions) teaches to maintain VFR, which is looking outside the plane. It is sometimes impossible to maintain visual reference and pilots should be prepared to go hard core on the gauges, including wearing foggles if it helps eliminate the urge to look outside and hunt for the visual reference that is not there. Night VMC flight over water or dark land is the same as IMC flight and the illusion of wellbeing will be hard to fight. Any pilot is legal to be in the clouds with or without an instrument rating as soon as an emergency is declared by the pilot. See FAR 91.3 Of the four losses in this category, 3 pilots were instrument rated, 1 was not.

- 3) Instrument pilots should be aware of distractions after takeoff into IMC conditions and concentrate solely on primary flight displays without sacrificing aircraft control to hit IDENT, or answer ATC, or adjust controls. The first moments after intentional IMC takeoff are very high risk for diving back down into the ground without knowing it. The transition from visual to instrument by a GA pilot can often cause a climbing sensation that causes a pilot to instinctively push aggressively on the controls for more nose down. Only one aircraft was lost in 2020 to this cause.
- 4) Surprised VFR pilots that rotate up into unexpected IMC conditions should descend carefully if possible, or if not possible - they should continue climb without reference to outside cues, declare an emergency and ask for help. See FAR 91.3 Use better ADM prior to boarding.
- 5) Four planes lost in 2020 this year, all in day VMC conditions, demonstrating their airman skill set in buzzing or low-level loops and rolls. Acro is not that easy. Don't try this in your plane.
- 6) The scenario persists where an event occurs, the event causes a distraction, the distraction causes LOC (U-FIT or C-FIT) 9 planes were lost in 2020 from mis-handled abnormals in flight.
- 7) 23 aircraft lost in 2020 due to terrain collision. One possible solution is in the use of terrain avoidance GPS, iPad, foreflight, etc. would significantly reduce most of these. If you are flying in terrain areas, consider the very worthwhile investment in terrain avoidance equipment, which includes tower and building avoidance data as well.
- 8) 4 fatal aircraft accidents in 2020 were caused by a loss of primary attitude and/or heading information (AHRS) in flight. This can happen from the loss of either vacuum or loss of electrical in flight, or by a

failure of the indicator itself. Consider flying IFR with a backup iPad and stratus for precise pitch and roll information displayed easily on a terrain map. The technology is well worth the small investment and the instant AHRS data blue toothed to the iPad is simply phenomenal. It will help keep you upright while you find the nearest airport. Remember that some iPad apps are only powered by aircraft electrical systems (Garmin Pilot) so that in the case of a complete electrical failure, an additional stand by battery source is required.

- 9) Two aircraft were lost in 2020 due to pilots that attempted landings while too high and/or too fast. Remember the stabilized approach criteria and elect to go around prior to being in a position where a go around is no longer possible. The 8 minimum criteria are: On a vertical path, on Vref, fully configured, checklists complete, landing in the TDZ, landing on centerline, power normal, VSI normal.
- 10) Four fatal losses in 2020 were attributed to were running out of fuel. Two were at night and two were during day. One was day conditions but very high field elevation and no suitable area available. A survivable power off landing may not be possible due to hostile terrain below. The FAA minimum 30-minute day VFR fuel requirement is clearly insufficient. Always plan to land with at least one-hour reserve. While not fatal, the Taigh Ramey B-25 warbird crash of N7946C 9/19/2020 ran out of gas.
- 11) Loss of Thrust on Takeoff ranks second in the highest loss category. The surprise effect of losing an engine on takeoff often causes the pilot to “pull” aft on controls if he/she is not fully prepared for the event. In some STOL aircraft, an impressive powerful climb deck angle after takeoff may not be survivable by the LOTOT recipient by even the most experienced and proficient pilot. 21 fatal crashes occurred in 2020 due to the pilot never lowering the nose significantly after LOTOT, or not lowering it enough. The resulting stall and spin is often construed by observers as an attempt to return - but most invariably the resulting half turn observed is the result of the aerodynamic spin which ends up placing

the aircraft wreckage facing opposite the direction of takeoff. A takeoff briefing or self-briefing increasing expectation of the event and preparation for it would eliminate most of these accidents. “There it is. PUSH.” Of the 21 fatal LOTOT accidents in 2020, all were day VMC conditions unrelated to any other factor.

- 12) The most telling category in this entire report, is the 42 aircraft lost due to simple loss of speed awareness. All 42 losses occurred in day VMC conditions. The airlines define “maneuvering speed” as a minimum and define it clearly on the airspeed indicators at all times for all configurations. The GA world defines “maneuvering speed” as a maximum speed at which full and abrupt controls may be applied. This is a number memorized for oral exams, but not displayed in the GA cockpit. See YouTube video by FlightChops from September, 2019. The solution may well eventually lie in the installation of electronic AOA warning devices for GA planes, but that is expensive and not practical for everyone. The easiest solution available to everyone today is to self-modify their own airspeed indicator (traditional or glass) by adding a small colored bright “radial” marker placed at DMMS speed for that particular aircraft. DMMS is “Defined Minimum Maneuvering Speed” for the GA pilot and can be found by taking the published clean stall speed and multiplying by 1.404. $V_{s1} \times 1.404$ is DMMS. The placarded (one color radial) DMMS speed represents three things in flight: 1) Minimum climb speed (unless a V_x climb is needed temporarily), 2) Best glide speed for power off maneuvering, 3) minimum maneuvering speed after takeoff or coming in for landing. For landing, DMMS should be honored until the airplane is stabilized on final with no more turns required. Once on final, speed can be slowed below DMMS down to V_{ref} as a minimum. For each landing, an increased awareness of DMMS and target V_{ref} is the goal. Placing an airspeed DMMS radial in front of you eliminates all need for quick number recall during crisis.

- 13) The loss of thrust on takeoff in a twin continues to be problematic. 3 planes were lost in 2020 due to LOTOT in a multi-engine aircraft where pitch was never lowered enough to maintain directional control. Be very ready for LOTOT in the multi and aggressively lower the nose before doing anything else.
- 14) 8 planes were lost in mid-air collisions during 2020. All were in day VMC conditions. Of these 8, 7 were equal party to the cause, and one aircraft was without fault as the airplane that was hit by the offending aircraft in formation flight. One of these 8 aircraft, one is a DARWIN AWARD RECIPIENT, there are 10 such recipients in 2020. See Darwin Award page.
- 15) 3 aircraft were lost to in flight icing in 2020. All three pilots were instrument rated flying in IMC conditions that were conducive to the accumulation of ice accumulation. All three pilots were operating non FIKI aircraft. FIKI is Flight in Known Icing where the aircraft is certified for those conditions.
- 16) 2 aircraft were lost during the act of a simple Go-Around. One was a sea plane landing on water, the other a C-206 landplane. Both were Cessna aircraft that messed up their Go Around procedure.
- 17) A mechanical failure of the ability to control an aircraft was the cause of 22 fatal crashes in 2020. Of the 22 losses, 9 were either helicopter or AutoGyro aircraft. Of the 22 crashes, 5 were still pilot error in the form of a failed pilot function to preflight the aircraft prior to flight. The other 17 were mechanical failures that were not powerplant related.
- 18) The ability of a pilot to determine the need to abort a takeoff is critical to survival. The FAA does not teach or check the concept of RTO for most GA pilots. Having a predetermined takeoff energy metric (time or distance to liftoff) by each pilot that would signal the need for a timely RTO would help.

19) In previous years, a seat sliding back during takeoff was a common cause. In 2020 there were no known fatal crashes caused by a pilot seat that slid back during takeoff.

20) Thunderstorm penetration was the cause of 4 fatal losses and 13 lives lost in 2020. In each of the four cases, the aircraft broke apart in flight after encountering thunderstorms in flight. 3 of the 4 aircraft were IFR pilots operating on an IFR flight plan. The over reliance on delayed uplinked weather data as opposed to airborne radar may be a key aspect as todays pilots use uplinked weather data pictures that may be as much as 15 minutes old in attempts to avoid the storms. Often times, flying towards “the hole” is actually flying to where the hole used to be. ATC is a government service that provides traffic separation. Navigation and weather avoidance assistance are services sometimes offered by ATC - but sole responsibility for the safe outcome always lies with the pilot.

S) Pilot suicide is not common, but it appeared to be the cause of three fatal solo crashes where the pilot was the sole person on board.

UNK) Five fatal losses are still of unknown cause, not even able to venture a probable cause at this point.

X) 10 fatal aircraft accidents defy all logic and cannot be placed into any AQP category. The pilots were not suicidal, but their total lack of care, training, maintenance, credentials, experience, equipment and ability ended in very predictable conclusions. The 10 N Numbers listed below and their respective pilots are the 2020 Darwin award winners, AQP category (X).

The 2020 Aviation Darwin Award Winners, AQP (X)

4/23/2020	Craig	Colorado	N601X	AMEL	AEROSTAR	601B
6/5/2020	Redlands	California	N9217B	ASEL	CESSNA	175
10/13/2020	Citra	Florida	N631PF	ASEL	COMMANDER	100
8/3/2020	Knoxville	Tennessee	N55GJ	HELI	EUROCOPTER	EC130
8/1/2020	Dunnellon	Florida	N7192L	ASEL	GRUMMAN	AA5
7/31/2020	Soldotna	Alaska	N2587M	ASEL	PIPER	PA-12
11/8/2020	Dunn Center	N. Dakota	N3606A	ASEL	PIPER	PA22
6/27/2020	Zavalla	Texas	N315AM	ASEL	PIPER	PA32
12/16/2020	Shreveport	Louisiana	N55168	ASEL	PIPER	PA28
7/11/2020	Grosse Ile	Michigan	N50JH	ASEL	T-BIRD	TBT-06

N2587M - Alaska State Representative Garry Knopp was denied an FAA medical based on his vision impairment. He appealed the denial and it was sustained. Garry Knopp flew without a pilot's license on that day, July 31, 2020 and hit another plane in flight, a mid-air collision. The aircraft that Representative Knopp was flying on that day was not in annual, it displayed an incorrect N number of N1904T, and displayed an experimental placard. He had not held a valid Pilots license since 2012. This pilot killed himself and 6 other innocent citizens aboard the other aircraft. You can't see and avoid if you can't see.

FINAL NOTES:

The NTSB has established a baseline measuring system in comparing annual total number of fatal accidents as compared to the number of hours flown. The concept being that more hours flown will yield more risk exposure, therefore more accidents. In General Aviation, that total number of hours flown figure is not accurately definable. The overall NTSB summary graph shows numbers in the range of 1.0 fatal accidents per 100,000 flight hours. The NTSB almost seems to approve the 160 Pilot Error accidents in 2020 as acceptable losses, where the flight hour figure will be adjusted to make it sound like a good year on a percentage basis.

More than 70% of these preventable and predictable losses could have easily been avoided with training, and education. Of the more than \$50M spent by the NTSB each year to try to figure out what happened, there is zero money spent to try to prevent it from happening.

A recent article by writer Rob Mark appeared in the September 2020 (pg. 41) issue of FLYING magazine. The title for that article was:

“Regulation or Inspiration? More training could improve the accident rate. But must it be mandated?”

Of interest today is the correlation between the government required continuing education and certification for doctors, engineers, CPA's, School Teachers, Insurance Brokers, and hundreds of other professions. A pilot is required to undergo continual medical examination and certification. Each aircraft has a requirement that it be inspected at a minimum of an annual continuing certification conducted by an independent Inspector with Inspection Authorization. When an aircraft completes its annual, written documentation is created using the words “I certify that...” The person making that certification is held accountable for not returning an unsafe aircraft to the skies. When does a General Aviation pilot ever receive mandatory government required continuing education, evaluation, and certification “I certify that...” type documentation from an independent Inspector

responsible for that person's evaluation? Never. This is the missing link. This is the cause of our GA demise, and we need new self-guided proficiency-based inspiration in place of looming new FAA regulations in order to change this downward industry trend vector. AQP for General Aviation.

A special Thank You to the staff at Kathryn's Report, the independent aviation accident web site that has places all available data in one convenient location. This 2020 Aviation Accident Summary could not have been completed without this valuable web site. See that site at www.Kathrynsreport.com

Please see the comment section at the bottom of each accident report on **Kathryn's Report** and please add any information that you may have as a comment. Comments are free and do not require registration. Anonymous comments are allowed. All comments are seen and considered. Comments from witnesses and knowledgeable pilots have provided tremendous insights into the details of many of these accidents. Download the full AQP document PDF from www.Aviation101.com/AQPgrassroots

PREVENTION IS NO ACCIDENT

We can do much better in 2021. Here's how to eliminate most of these accidents:

- AQP 12 Mark your airspeed indicator and don't be the next day VMC stall/spin DMMS fatality.
- AQP 7,8 Get an iPad and Stratus and learn to use it!
- AQP 11 Be ready for LOTOT on every takeoff and pitch for your DMMS speed.
- AQP 14 Be vigilant in the traffic pattern. See and avoid! Eyes outside! No distractions below '1000 ft.
- AQP 1,2,4 Declare an emergency. Ask for help.
- AQP 6 Don't focus on the distraction. Fly the plane first. Deal with the distraction later.