



## 2020 ANNUAL REPORT

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Revised 1 January 2021



## ***2020 ANNUAL REPORT***

### **1. The Year at a Glance**

2020 has been a challenging year for all small businesses, and AvSport is no exception. A global pandemic has had significant impacts upon our operation, from which we are only now beginning to recover. State health and public safety mandates required us to terminate operations between the months of March until May, impacting both our bottom line and the progress of our flight students. Nevertheless, we managed not only to provide quality flight training, but to eek out slim profits, facilitated by the desire of our highly motivated students to make up for lost time once we were able to resume operations (albeit at reduced capacity).

The flight instruction environment is an especially intimate one. Small trainer aircraft mandate close quarters between student and instructor, hampering all attempts at social distancing. We have found no effective means for remote learning of manipulative skills, thus requiring us to implement rigorous pandemic precautions. Both students and instructors found it necessary to mask within the aircraft, and to space themselves out in the classroom, requiring us to abandon group training in favor of individualized ground instruction. We had to train our students not only in neuro-muscular and cognitive skills, but also in the disinfecting of aircraft, simulators, tools, and supplies between lessons. We have reduced student thruput, but will never compromise safety.

Despite all this, our staff and students continue to be upbeat and optimistic. As we begin a new year, we look forward to a lessening of restrictions, and anticipate better times ahead.



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### **2. Vision and Mission Statements**

#### **Our Vision:**

**AvSport envisions a General Aviation renaissance, facilitated by quality training of Sport Pilots and the availability of modern Light Sport Aircraft.**

#### **Our Mission:**

**AvSport enhances aviation safety and enjoyment, by offering:**

-  a rigorous, though flexible, flight training curriculum
-  experienced, professional Certified Flight Instructors
-  well maintained advanced Light Sport Aircraft
-  modern and accessible instructional materials
-  individualized instruction
-  an affordable aviation experience

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### 3. Facilities

The General Aviation Terminal, located in Hangar One at the Piper Memorial Airport (KLHV) in scenic Central PA, houses our flight school office, restrooms, conference room, weather briefing room, flight simulator, and pilot's lounge. Ideally suited to Sport Pilot training, Lock Haven is a non-towered general aviation airport with a 3800 by 75 foot paved runway, and a parallel 2200 by 100 foot turf strip. The paved runway is equipped with pilot controlled lighting for night operations, as well as runway end identifier lights and a two-light visual approach slope indicator at each end. Our aircraft storage and maintenance activities are housed in T-hangar North 7, directly across the parking lot from the Pilot's Lounge. A camping trailer on the field is available for the use of students from outside the local area wishing to stay overnight. A nearby B&B also offers visitors pleasant accommodations with a flight school discount.



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### 4. Aircraft

Available for both flight instruction and rental by qualified pilots, AvSport of Lock Haven provides modern, well equipped Light Sport aircraft, manufactured to exacting ASTM International standards. Our current primary trainer is an Evektor SportStar Max (our second of this make and model) purchased in July 2015.

Manufactured in the Czech Republic, our SportStar is licensed by the Federal Aviation Administration as a Special Light Sport Aircraft (S-LSA), and equipped with the latest “dual glass cockpit” redundant electronic flight and engine instruments. Its advanced avionics package and fully coupled autopilot make this a Technically Advanced Aircraft suitable not just for Sport Pilot training, but for our more advanced students, including Private, Commercial, and Instrument Pilot candidates.

As an early adopter of the FAA’s NextGen 2020 radar equipment, AvSport further increases safety by applying monthly updates of all VFR and IFR navigation charts and terrain maps for the Dynon SkyView Primary Flight Display and MultiFunction Display installed in our primary trainer. Our rigorous preventive maintenance and inspection program is designed to provide optimum engine operation through the factory-authorized maximum of 2000 flight hours.



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### **5. Drone Pilot Training**

Commercial operation of Unmanned Aircraft Systems (commonly called Drones) has emerged just recently as a major growth segment of the aviation industry. In late June of 2016, the Federal Aviation Administration published rules for licensing of commercial drone pilots, a process which began on 29 August. AvSport immediately began developing curriculum, and the week the new rules went into effect, became the first flight school in the nation to train and graduate Remote Pilots with a Small Unmanned Aircraft System rating.

According to former FAA Administrator Michael Huerta, the new FAA rating is expected to generate more than \$82 Billion in economic activity, and generate over 100,000 new jobs, over the next ten years. "The early 20th Century ushered in the Air Age," notes AvSport Chief Flight Instructor Prof. H. Paul Shuch, the nation's third licensed commercial drone pilot. "The mid 20th Century represented the start of the Space Age, and the early 21st Century marks the beginning of the Drone Age. The unmanned aerial systems industry is currently in its infancy, with commercial interests just beginning to discover the wealth of applications which can be fulfilled with these small, inexpensive, and very capable remotely piloted vehicles."

To date, AvSport has graduated over a dozen commercial drone pilots, who have used their Unmanned Aircraft Systems for accident investigation, commercial photography, real estate appraisal, law enforcement, research and development, and site surveys in support of broadband wireless telecommunications.

"Drones are the fastest growing segment of transportation in our nation and it is vitally important that they are safely integrated into the national airspace," said U.S. Transportation Secretary Elaine L. Chao. "As a pilot, my eye is always on safety first," said FAA Administrator Steve Dickson. "Safety is a joint responsibility between government, pilots, the drone community, the general public and many others who make our nation so creative and innovative."

AvSport is proud to offer potential commercial drone operators an opportunity to get involved on the ground floor of what promises to be aviation's next Great Frontier. Our quarterly Remote Pilot courses are now scheduled through the end of the 2021 calendar year.





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### 6. Curriculum

Developed by a retired college professor with nearly 50 years of experience in higher education, AvSport's rigorous though flexible flight training curriculum allows students to obtain the new Sport Pilot license in half the time, and at half the cost, of the traditional Private Pilot rating, without compromising skills or safety. Students can choose between an accelerated six-week training program, and a less intensive program of conveniently scheduled lessons. We are an FAR Part 61 flight school and TSA-approved Alien Flight Student Program provider, nominated by our students for the AOPA Flight Training Excellence Award. Flight training and individualized ground instruction are integrated, and are supplemented by reading assignments, practice tests, assigned videos, and online PowerPoint lessons to allow each student to progress at his or her own pace.

To date, more than 80% of AvSport's students accomplishing their first solo flight have gone on to become licensed pilots, more than half of our graduates are now aircraft owners, and a quarter of our licensed Sport Pilots have continued their studies, earning their Private Pilot ratings.

#### **AvSport's ten standard training packages now include:**

- ✈ "Taste of Freedom," a half-hour Discovery Flight
- ✈ "Gateway to the Sky" Introductory Lesson (one hour each of flight and ground training)
- ✈ "Simulator Club," unlimited use of our Redbird Jay flight simulator for a flat annual fee
- ✈ "Flight FUNdamentals," a four-lesson, minimal-commitment sport flying experience
- ✈ "Six Weeks, Rain or Shine," zero hours to first solo flight in an intensive pre-solo module
- ✈ "Six More Weeks of Heaven," first solo flight to license in an intensive post-solo module
- ✈ "Airspace Ace." Earn all 3 Sport Pilot controlled airspace endorsements in just 3 days
- ✈ "Pilot Downsizer," a 3-day Light Sport Aircraft transition for licensed Private Pilots
- ✈ "The Next Step Up," a 6-week Private Pilot add-on module for licensed Sport Pilots
- ✈ "Remote Pilot In Command," a 3-day Commercial Drone Operator certification course



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### 7. Students

During 2020, three AvSport students accomplished their first solo flights, and two completed Commercial Drone Pilot training. Our Chief Flight Instructor conducted four Discovery Flights, six Introductory Lessons, gave one licensed pilot his 24-month flight review, and provided recurrency training for one Private Pilot. Our students, who range in age from 16 to 80, have come to Lock Haven for training from as far away as New York, Connecticut, New Jersey, Ohio, Maryland, Massachusetts, Michigan, Georgia, California, Florida, Canada, England, Spain, France, Saudi Arabia, India, Denmark, and Sweden. They represent a wide range of professional and educational backgrounds.

As students graduate from our Sport Pilot training program, some have chosen to become renter pilots, who continue to enjoy the recreational use of our aircraft (while allowing active students first scheduling priority). Others have continued on to earn higher ratings, and exercise additional pilot privileges. This year, yet another of our students acquired and flew his own aircraft.

AvSport promotes a sense of community among our students, instructors, prospects, and graduates, by sponsoring Safety Seminars, graduation parties, and (sadly) memorial gatherings, as well as hosting movie nights complete with popcorn and aviation films, and monthly Hangar Flying sessions featuring coffee, donuts, education, singing, conversation, and fellowship. Unfortunately, the present COVID-19 pandemic has forced us to curtail these in-person gatherings for the foreseeable future. However, though run as a viable business entity, AvSport still strives to foster an old-time flying club atmosphere.





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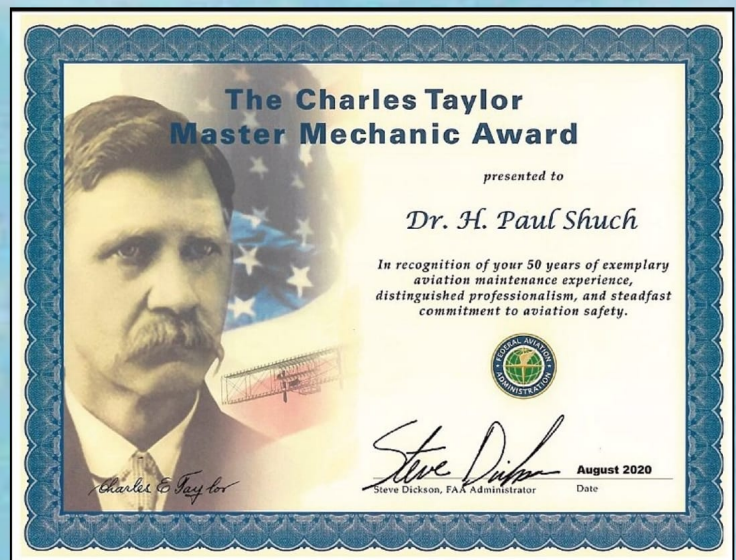
### 8. Staff Milestones



In February 2020, AvSport Chief Flight Instructor Prof. H. Paul Shuch (at right) joined four other Harrisburg district FAA Designated Pilot Examiners in completing biennial DPE refresher training in Philadelphia. All were reappointed Examiners for another year. In addition, in consideration of a nation-

wide shortage of both Certified Flight Instructors and Examiners qualified to evaluate CFI applicants, Shuch's privileges were also extended, allowing him to provide oral and flight examinations for pilots wishing to become Sport Pilot Instructors.

In November, Prof. Shuch was awarded the FAA's Charles Taylor Master Mechanic Award, in recognition of his more than fifty years of service as an aviation maintenance professional. He started his career in 1965 with the U.S. Air Force, with command post duty in a NavAids and Communications Management Office, spent a few years in the aerospace industry, taught avionics, electronics, and physics for four decades, and now serves as AvSport's Director of Maintenance.



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### 9. Events



The premiere aviation event at Piper Memorial Airport is the annual Sentimental Journey to Cub Haven fly-in. Each summer, AvSport participates by providing Discovery Flights, safety seminars, and aircraft for static display. Here, our first SportStar trainer attracts the attention of some of our Amish neighbors. Sadly, the COVID-19 pandemic forced cancellation of our 2020 event.

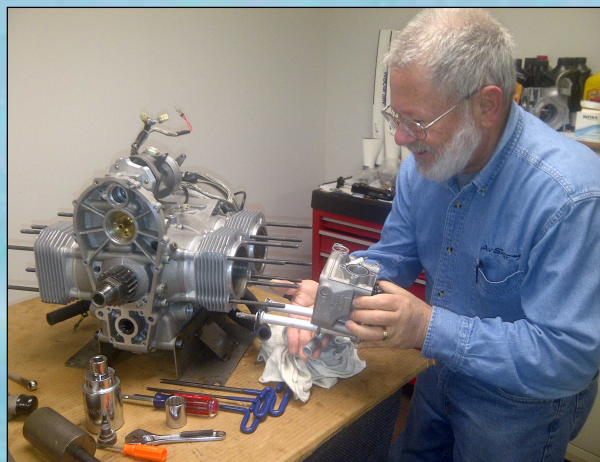
Fostering a sense of community on the Piper Memorial Airport, around a dozen AvSport students, graduates, renter pilots, instructors, and friends gather in the pilot's lounge, Hangar One at the Piper Memoria Airport, on the first Saturday morning of each month for free coffee, dounts, and hangar flying. We hope to be able to resume this activity in 2021.



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### 10. Maintenance

In 2020, AvSport continued to upgrade its modern, fully equipped maintenance shop in T-hangar 7 North at Piper Memorial Airport, conveniently located directly across the parking lot from the Pilot's Lounge and our flight school office in Hangar One. This year we performed condition inspections, preventive maintenance, prebuy examinations, major and minor repairs, and alterations to our own fleet, as well as customers' Special and Experimental Light Sport Aircraft. We are the sole Rotax Engines designated Independent Repair Centre for Western PA. In January 2021, our Director of Maintenance is scheduled to renew his Rotax service, maintenance, and heavy maintenance certificates, and remains rated by the FAA to inspect and repair Light Sport Airplanes, Gyroplanes, Powered Parachutes, Gliders, and Weight Shift Control Aircraft.





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### **11. Financials**

Sport flying being primarily a recreational activity, AvSport's financial position is both highly seasonal, and quite variable, depending as it does upon the local community's aggregate discretionary income. This past year, like all small businesses, AvSport's operations were severely impacted by the COVID-19 pandemic. Thus, our 2020 revenues decreased significantly over previous years.

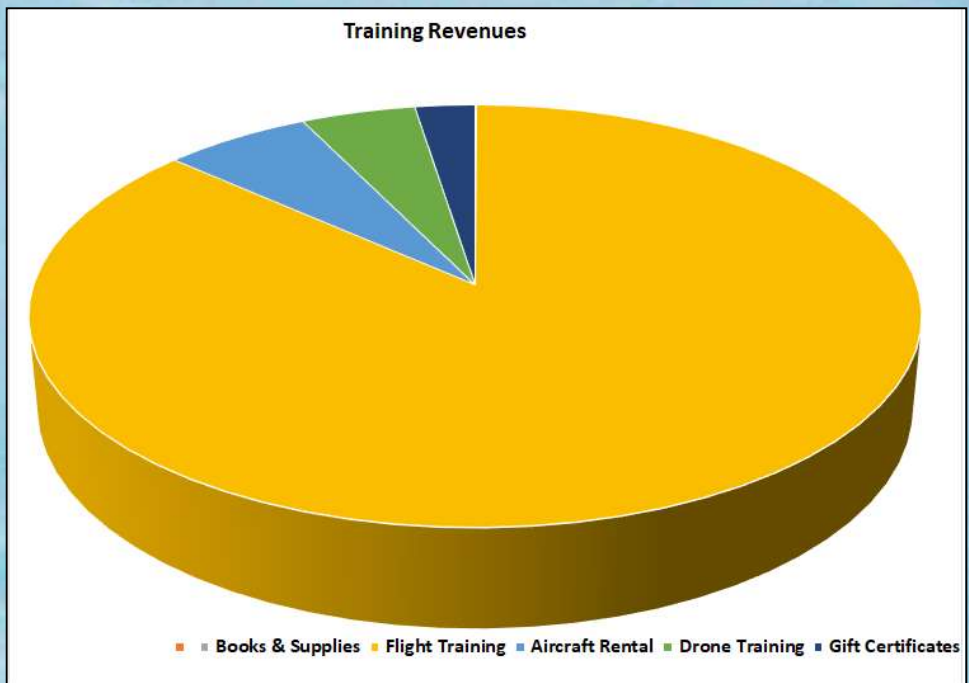
We saw our fixed and variable operating expenses increase significantly in 2020, due to increasing fuel costs, the impact of pandemic precautions, and a State-mandated three-month shutdown which eliminated many of our economies of scale. Nevertheless, AvSport continues to see a small but positive return on investment, now having earned a profit in ten out of our eleven years of operation. The charts below detail our operating revenues and expenses for the year just ended, exclusive of amortization of capital investment.

Unfortunately, a drastic increase in commercial aviation insurance premiums (up a whopping 57% over the past three years) has forced AvSport once again reluctantly to increase its course tuition, pay-as-you-go instructor fees, and aircraft rental rates.

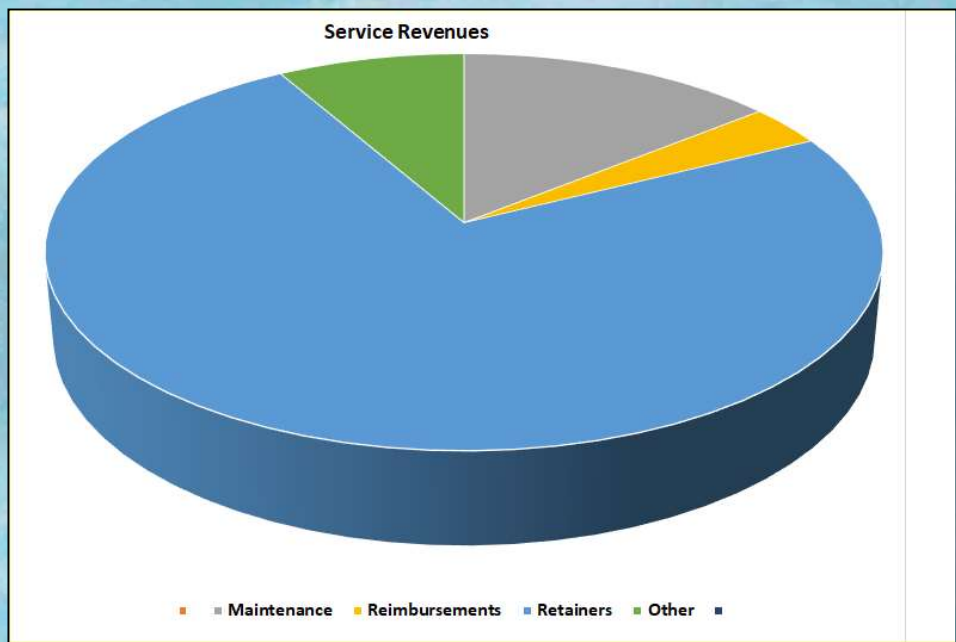
The Pie charts on the following pages provide a breakdown of our Training Revenues, Service Revenues, Fixed Expenses, and Variable Expenses for the most recent calendar year.

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## 2020 Training Revenues

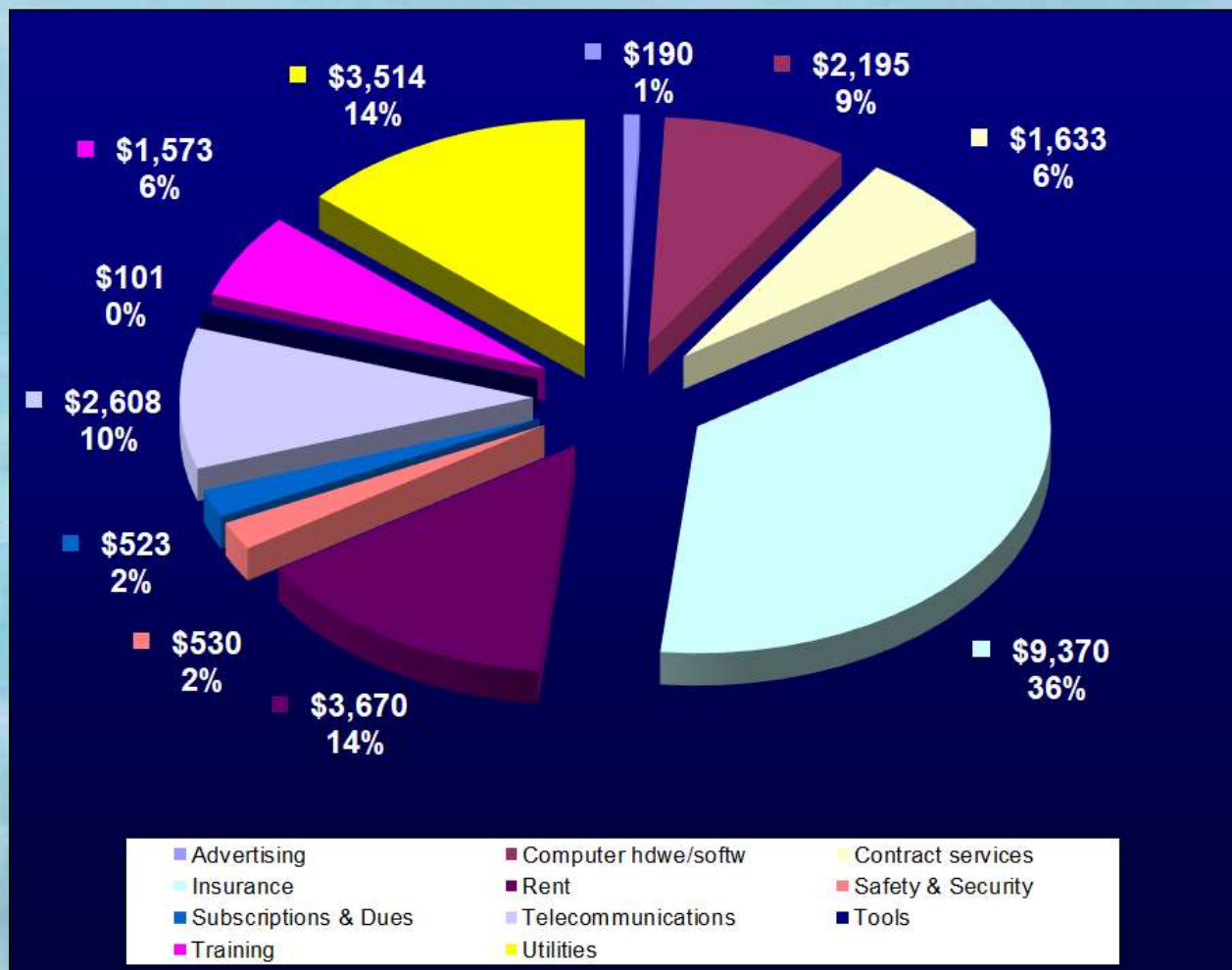


## 2020 Service Revenues



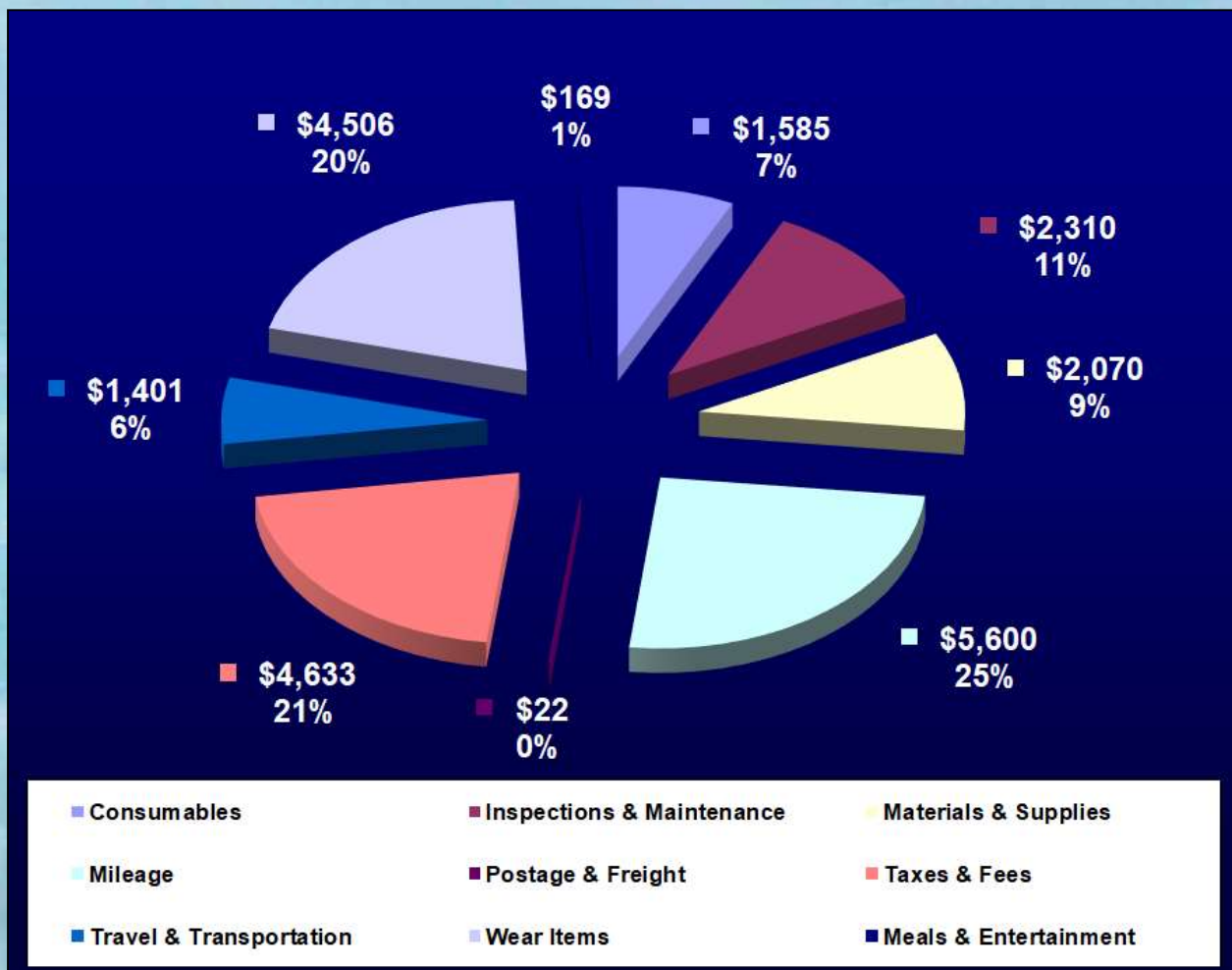
## 2020 ANNUAL REPORT

### 2020 Fixed Expenses



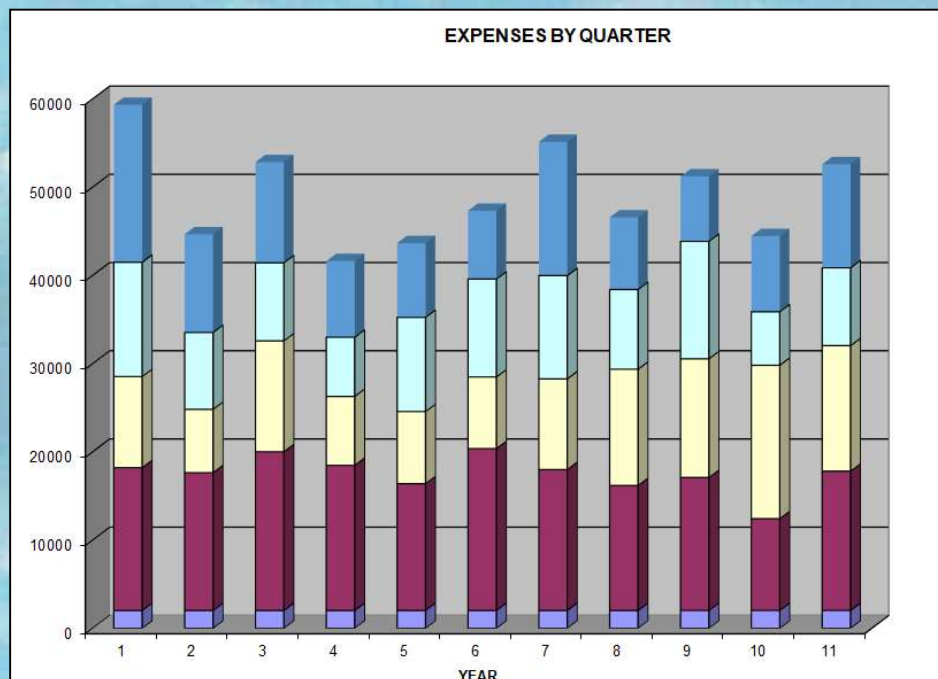
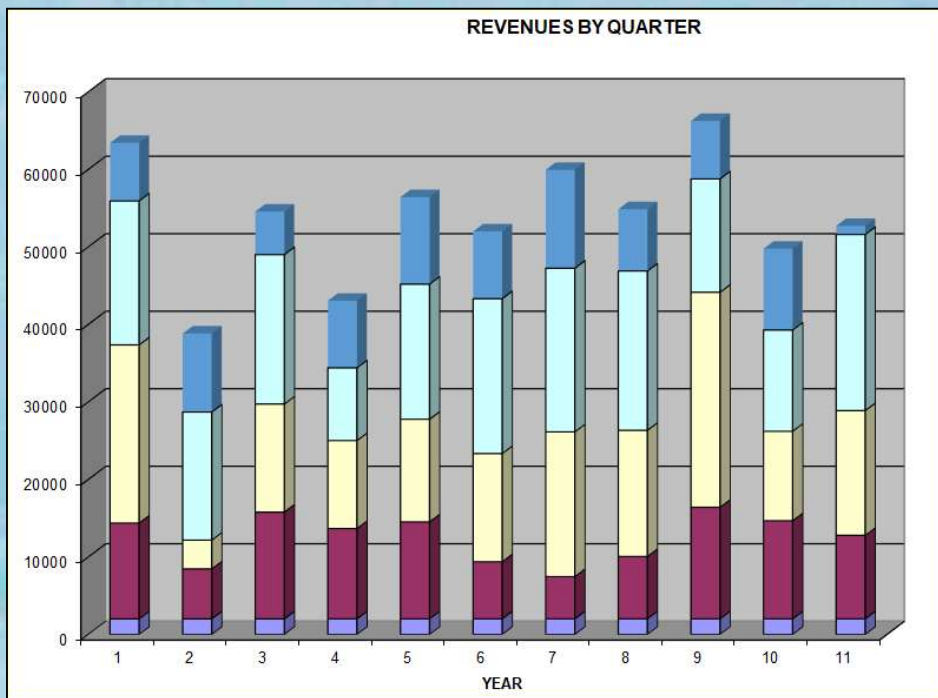
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### 2020 Variable Expenses



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### Cumulative Revenue and Expense History







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### Return on Investment (exclusive of capital acquisitions and amortization)

<u>Year</u>	<u>Revenues</u>			<u>Expenses</u>			<u>Profit(Loss)</u>
	<u>Training</u>	<u>Services</u>	<u>Total</u>	<u>Fixed</u>	<u>Variable</u>	<u>Total</u>	
2010	45,871	17,843	63,714	27,379	30,087	57,466	6,248
2011	21,562	15,252	36,815	18,738	23,897	42,635	(5,820)
2012	29,687	22,863	52,551	20,835	29,985	50,820	1,730
2013	20,821	20,218	41,040	17,774	21,835	39,610	1,430
2014	26,646	27,759	54,405	15,871	25,768	41,639	12,766
2015	30,157	19,825	49,982	22,617	22,681	45,298	4,684
2016	34,438	23,483	57,921	28,630	24,489	53,119	4,802
2017	25,819	27,034	52,852	20,461	24,089	44,550	8,302
2018	42,458	21,771	64,230	20,973	28,226	49,198	15,032
2019	20,990	26,754	47,743	24,420	18,013	42,433	5,310
2020	41,828	14,849	56,677	25,908	25,617	51,525	5,152

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### 12. Congratulations to our 2020 Graduates!



Primary flight students Andrew (upper left), Jennifer (lower left), and Brad (right) all accomplished their first solo flights in 2020. Here you can see them all participating in the Trimming of the Shirrtails, a ritual dating back to the Golden Age of Aviation, when new pilots often had to patch holes in their fabric-covered aircraft with pieces of their own garments.



In June, detectives Jason (left) and Aaron (right), both with the Williamsport Police Department, completed the Remote Pilot course at AvSport, the first flight school in the US to offer commercial drone training under FAA Part 107 rules. They will be using drone technology to aid in criminal investigations. Their instructor, Prof. H. Paul Shuch, was the nation's third FAA licensed commercial drone pilot.



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### **13. In Memoriam**

#### **General Charles E. Yeager**

**13 February 1923 - 7 December 2020**

**Remembered by Chief Flight Instructor H. Paul Shuch**

I am saddened to report the death this past year of aviation icon Chuck Yeager.

At the end of January 1968, Yeager and his squadron deployed to Osan AFB Korea, where I happened to be stationed. This was a decade before Tom Wolfe made his name a household word, but everyone in the Air Force knew who he was, and what he had accomplished. I can't say that I knew him (he certainly didn't know me), but I saw him swagger around base, brash, crude, and irreverent.

Despite his ego and attitude, his men loved him. He was a true leader, who commanded from in front, not behind. He would never send anyone on a mission he wouldn't fly himself. He was not much taller than I, but he towered over me, larger than life.

A dozen years later, I chanced to run into the General (by then retired and living in the Sierras) at the annual Memorial Day Fly-In at Watsonville CA. I was camped beside my beloved Beechcraft, and he arrived in an ultralight. When I questioned him about his choice of aircraft, he said it was the only plane he ever flew that he actually owned.

I next saw (or rather, heard) Yeager at an airshow on the Moffet Field Naval Air Station - I believe it was on the Fourth of July, 1984. He was the airshow announcer, and Bob Hoover was the headliner, performing his famous energy management routine in the Shrike Commander. As Chairman of the local County Airports Commission, I had the honor of enjoying a front row seat in the reviewing stand.

As usual Hoover, with both engines caged and both props feathered, glided into a low pass, a go-around, a touchdown on first one main, then the other, a proper landing, rolled to a stop in front of the reviewing stand, got out, and waved his straw hat to an enthusiastic crowd. Cocky as ever, Yeager boomed at Mach One over the loudspeaker "ladies and gentlemen, let's hear it for the world's second greatest pilot!"

RIP, General Yeager. I salute your life well lived for 97 years.



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### 14. Resources

For additional information about AvSport of Lock Haven, its aircraft, instructors, training materials, curriculum, and the new Sport Pilot license, please see the following pages of the AvSport web site:

 Main Page	<a href="http://AvSport.org">http://AvSport.org</a>
 Main Menu	<a href="http://AvSport.org/menu.htm">http://AvSport.org/menu.htm</a>
 General Information	<a href="http://AvSport.org/about">http://AvSport.org/about</a>
 Press Kit	<a href="http://AvSport.org/press">http://AvSport.org/press</a>
 Photo Gallery	<a href="http://AvSport.org/photos">http://AvSport.org/photos</a>
 Video Gallery	<a href="http://AvSport.org/press/video.htm">http://AvSport.org/press/video.htm</a>
 Flight Instruction	<a href="http://AvSport.org/cfi">http://AvSport.org/cfi</a>
 Webinar Videos	<a href="http://AvSport.org/webinars">http://AvSport.org/webinars</a>
 Light Sport Aircraft	<a href="http://AvSport.org/acft">http://AvSport.org/acft</a>
 Simulator Club	<a href="http://AvSport.org/simulator">http://AvSport.org/simulator</a>
 Maintenance Services	<a href="http://AvSport.org/maint">http://AvSport.org/maint</a>
 Remote Pilot Instruction	<a href="http://drone-training.org">http://drone-training.org</a>
 Pilot Examiner Services	<a href="http://SportPilotExaminer.US">http://SportPilotExaminer.US</a>
 Upcoming Events	<a href="http://AvSport.org/events">http://AvSport.org/events</a>
 Contact Information	<a href="http://AvSport.org/contact">http://AvSport.org/contact</a>
 Search Engine	<a href="http://AvSport.org/search">http://AvSport.org/search</a>

or, stop by Hangar One at the Piper Memorial Airport, and pay us a visit.



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### 15. Four Quadrant Briefing Charts:



URL: <http://www.AvSport.org>

### Sport Pilot Flight Training Curriculum Development

Chief Flight Instructor: Professor H. Paul Shuch, CFII



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**The Problem:**  
The completion rate of persons pursuing flight training in the US is below 20%, an all-time low. This is generally attributed to the increasing complexity of airspace, the introduction of advanced aircraft and avionics systems, and the high cost of aircraft ownership, rental, and operation. However, despite significant advances in both aeronautical technology and educational methodology, pilot training curricula have remained virtually unchanged since prior to the Second World War.

**The Proposal:**  
The introduction by ASTM of the Light Sport Aircraft certification category, along with the establishment by FAA of the Sport Pilot License, presents an opportunity for a significant modernization of the flight training curriculum.



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**Vision Statement:**  
AvSport envisions a General Aviation renaissance, facilitated by quality training of Sport Pilots and the availability of modern Light Sport Aircraft.

**Mission Statement:**  
AvSport enhances aviation safety and enjoyment, by offering:

- a rigorous flight training curriculum
- experienced, professional Certified Flight Instructors
- well maintained advanced Light Sport Aircraft
- modern and accessible instructional materials
- individualized instruction
- an affordable aviation experience

**Schedule Milestone and Accomplishments:**

- September 2009 (Technology Readiness Level 1)
- Establish AvSport as an FAR Part 61 Flight School; activate website (Technology Readiness Level 2)
- December 2009 (Technology Readiness Level 2)
- Purchase of Evektor SportStar Light Sport Aircraft trainer
- January 2010 (Technology Readiness Level 3)
- Present business plan to Look Haven City Council; lease facilities
- February 2010 (Technology Readiness Level 4)
- Introduce "Three Weeks, Rain or Shine" Pre-Solo intensive course
- April 2010 (Technology Readiness Level 5)
- Solo first primary student
- May 2010 (Technology Readiness Level 6)
- Introduce "Three More Weeks of Heaven" Post-Solo intensive course
- June 2010 (Technology Readiness Level 7)
- Graduate first licensed Sport Pilot
- November 2010 (Technology Readiness Level 8)
- Complete FAA mechanics training; establish maintenance shop
- March 2011 (Technology Readiness Level 9)
- Introduce "Pilot Downsize" LSA transition course curriculum

Rev. 16 November 2011

TRL = 9

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**Keywords:** Flight Instruction, General Aviation, Flight School, Sport Pilot, Light Sport Aircraft, LSA, ASTM, FAA



URL: <http://www.Drone-Training.org>

### Remote Pilot Training Curriculum Development

Chief Flight Instructor: Professor H. Paul Shuch, CFII

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**The Opportunity:**  
Commercial unmanned aircraft systems (commonly known as drones) represent the next major growth area for General Aviation. Whereas the early 20th Century ushered in the Air Age, and the mid 20th Century represented the start of the Space Age, one could call the early 21st Century the beginning of the Drone Age. The unmanned aircraft system industry is currently in its infancy, with commercial interests just beginning to discover the wealth of applications which can be fulfilled with these small, inexpensive, and very capable remotely piloted vehicles.

**The Proposal:**  
Building on its success as an FAA Part 61 Flight School, AvSport seeks to develop a comprehensive drone training program, whereby our students can be among the first in the nation to earn an FAA Remote Pilot certificate with a small UAS rating.



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**Vision Statement:**  
AvSport envisions a renaissance in commercial Unmanned Aircraft System (drone) operation, supporting a variety of industries, facilitated by quality training of Remote Pilots that emphasizes airmanship, awareness, and crew resource management.

**Mission Statement:**  
AvSport enhances commercial drone safety, by offering:

- a rigorous ground and flight training curriculum
- experienced, professional Certified Flight Instructors
- well maintained advanced Unmanned Aircraft Systems
- modern, computerized instructional materials
- small classes emphasizing hands-on instruction
- an affordable and accessible Remote Pilot training program

**Schedule Milestone and Accomplishments:**

- December 2015 (Technology Readiness Level 1)
- FAA first requires registration of small Unmanned Aircraft Systems
- January 2016 (Technology Readiness Level 2)
- AvSport creates Drone-Training.org website; begins curriculum development
- June 2016 (Technology Readiness Level 3)
- FAA publishes FAR Part 107 rules for commercial drone operation; licensing
- June 2016 (Technology Readiness Level 4)
- AvSport purchases its first quad-copter trainer; publishes curriculum
- July 2016 (Technology Readiness Level 5)
- AvSport chief flight instructor completes online FAA5Team drone course
- August 2016 (Technology Readiness Level 6)
- FAA implements FAR Part 107 rules for commercial drone operation
- August 2016 (Technology Readiness Level 7)
- AvSport chief flight instructor becomes first Remote Pilot licensed in US
- September 2016 (Technology Readiness Level 8)
- AvSport conducts its first Remote Pilot course
- September 2016 (Technology Readiness Level 9)
- FAA issues Remote Pilot certificates to first AvSport graduates

TRL = 9

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Rev. 1 January 2017

**Keywords:** Remote Pilot, Unmanned Aircraft Systems, Remotely Piloted Vehicles, Flight Training, Drone Safety