

MU-2 magazine

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a publication of Turbine Aircraft Services, Inc.



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www.mu-2aircraft.com



COVER PHOTO:

Tom Johnson and Adam Bruss,
Owner/Operators.

Photo by Jan Glenn during
PROP photo shoot.

The Mitsubishi MU-2, one of Japan's most successful aircraft, is a high-wing, twin engine turboprop with a pressurized cabin. Work on the MU-2 began in 1956. Designed as a light twin turboprop transport suitable for a variety of civil and military roles, the MU-2 first flew on September 14, 1963. More than 700 MU-2 aircraft were built before the aircraft went out of production in 1986. Presently, nearly 300 MU-2 aircraft remain in operation with the majority of the fleet registered in the U.S.

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Editorial

by Pat Cannon

I just realized how close we are getting to the PROP season. Things are happening fast and furious around the TAS and MHIA offices to make sure this is the most successful PROP ever, although we will have trouble topping the participation numbers from 2014. Lots to do and the traditional owner/operator photo shoot is scheduled to happen in late October. We will have the chance to meet and fly with some of our owners in their airplanes, and they will become the focus of a video about them, their airplane and the reason for owning their MU-2. We always have fun and learn a lot from our owners when we produce these informative videos. Our focus for this PROP is once again the "Safety Culture" that we have all participated in over the last few years. Now that we are the safest turboprop in the industry, according to Mr. Robert Breiling and AIN statistics, we want to keep it that way. We can do that by paying attention to our flying safety through training and compliance with good practices. More on that in my article.

Also in this issue will be our quarterly spotlight. This time we will feature Dave Klain, and most of you know him through his management of the forum site. Carol Cannon will update you on the presence of the MU-2 booth at the Las Vegas NBAA Convention. Rick Wheldon and Joe Megna have both submitted their take on two different maintenance subjects. Rick will discuss the maintenance program for your MU-2, and Joe has submitted a very comprehensive look at what you should do before and after taking your aircraft to the paint shop.

I look forward to seeing many of you in Aiken at the Fly-in.



Pat Cannon is President of Turbine Aircraft Services.
He is an FAA Designated Pilot Examiner, former MU-2 Demo Pilot, and Safety Expert.



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- Each Owner/Operator receives a gift just for stopping by
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- Lots of MU-2 talk



Dave Klain

by Mike Taylor

This edition of the MU-2 Magazine features an owner/operator each of you are likely to be familiar with, Mr. David Klain. If you've had any involvement with the Web-based MU-2 Owner/Operator Forum you've heard of "Dave." If not there, perhaps you saw him in a PROP 2014 video interview. Then again, a photo of Dave Klain's MU-2 was featured on the January 2015, 5th edition, cover of this magazine. Regardless, Dave is an active participant in the MU-2 community and in many ways an advocate of flying with the public at large.



Mike Taylor is a former aircraft design engineer, 24-year aviation industry veteran, current marketing consultant and private pilot.

MU-2 Owner/Operator Forum

Dave described the O/O Forum he manages on behalf of the MU-2 owner/operator community's 400-plus members this way: "The MU-2 mailing list originated as a Yahoo Group around 2005. It was started by Dr. Alan Kozarsky. In 2011, after I joined the group and was looking at possibly purchasing an MU-2, I contacted Alan and offered my IT expertise. We ultimately migrated it over."

There are many familiar names posting frequent messages in the MU-2 O/O Forum. These include Dick Shine, Ross Russo, Pat Cannon, Earle Martin, and Rick Wheldon among others. "They are all folks who have owned and/or flown MU-2s for a long time, 15 to 20-plus years," Dave said. He added, "It's no surprise to see them active on the site."

"We have 425 registered members. Of them, I'd say about 30 to 40 are people interested in MU-2s, potential purchasers. Another 100 to 150 are owner/operators who just lurk (i.e. read) the list to keep up-to-date, and the remainder are active participants comprised of owners/operators/pilots/instructors and service-related personnel. Of course as in any forum there is a core group of the most active people who post all the time and they are probably in the 50 to 100 range."

The MU-2 O/O Forum, sometimes referred to as the MU-2 "blog," is an interactive website allowing participants to leave comments and message each other. As such it is a form of social networking and aids in building relationships among readers and posters.

From a technical standpoint, however, a "forum" is much more than a blog. The MU-2 O/O Forum with its specific jargon and organization fits the broader definition. For example, it lists conversations about a single topic into "threads." Whether you're a techie or not, every MU-2 owner/operator can benefit from participation in the O/O Forum. It is a place where like-minded individuals meet frequently to discuss a variety of topics, and the learning possibilities are endless. For Dave Klain, the O/O Forum was a great place to start when looking to purchase his MU-2.

Dave is something of a Swiss army knife in the MU-2 community. Not only does he administer the O/O Forum, he's often busy flying his aircraft for charitable purposes and can be seen in other places online, and on location, promoting the MU-2 and its abilities.

PROP 2014 Video

In the above introduction, I mentioned a video produced for PROP 2014. Dave describes the self-narrated video as "some spectacular air-to-air footage flying in and around the Blue Ridge Mountains of Virginia, Maryland and West Virginia."

Dave is good on camera, professional in my opinion, and he multitasks the interview while flying his MU-2. The Blue Ridge Mountains form the eastern boundary of the Shenandoah Valley not far from where he lives in Fairfax, Virginia. Dave calls it "a suburb of Washington DC." Twenty-five miles west of DC, he bases his aircraft at Manassas Regional Airport (KHEF).

The video is available on YouTube in several places, but here Dave highlights a version in full HD <<https://www.youtube.com/watch?v=iO6dIDBk2Aw>>.

Wounded Warrior Project

Dave Klain is a retired naval officer, having spent 26 years in the service. While aircraft owners often fly for business reasons, Dave now flies his airplane for a variety of causes. These activities subsist as an extension of his military career.



Dave enjoys volunteering with Veterans Airlift Command. He flies often for the group's Wounded Warrior Project <<http://www.woundedwarriorproject.org>>, transporting service members undergoing rehabilitation to and from Bethesda Naval Hospital.

Wounded Warrior Project serves veterans and service members who incurred a physical or mental injury, illness, or wound, co-incident to their military service. The organization's mission is to foster the needs of wounded or injured service members providing unique, direct programs and services. Focus is often on their families. The organization was established following events on September 11, 2001.

Dave pointed out that a typical stay at Bethesda is one to three years. He operates his MU-2 assisting service members with their travel needs. "Often both families and service members need to get somewhere. They go home for holidays. They travel back-and-forth. Their disability prevents them from flying commercially, or from sitting in a car for eight to ten hours." Dave adds, "It's been my privilege to fly Wounded Warrior missions."

Recalling a flight made on Veterans Day a few years back, Dave described the task of transporting a Marine Staff Sergeant and his wife. "The Marine had sustained an IED injury while on duty. He asked to attend the funeral service of one of his team members in Ohio. The trip was sad and bittersweet. Yet afterwards I recognized how gratifying it felt to assist a fellow serviceman."

He added, "With Wounded Warriors, the MU-2 is very helpful as many have lost one or both legs. In a King Air with its airstair door, one must climb five steps to enter the plane. With the MU-2, it's one step to get in. For the mobility impaired, the MU-2's low-to-ground profile is a big benefit."

Prior to enlisting with the Wounded Warriors Project, Dave had flown with Angel Flights operating a Mooney he previously owned. But the Veterans Airlift Command is a mission he feels a personal connection with. "It was an easy decision to make." After 26 years in the Navy, Dave concluded, "My body is broken but not nearly as bad as these guys."

Pilots N Paws

Another organization Dave flies with is Pilots N Paws, transporting rescued animals from shelters to homes. "If I'm not flying to go somewhere, what's a better way to maintain proficiency than by helping animals, or deserving service men or women?" Dave queries.

Pilots N Paws <<http://www.pilotsnpaws.org>> is best described as a gathering place for volunteer pilots and plane owners. Much like the MU-2 O/O Forum there are discussions, including guidelines, for purposes of volunteering or assisting in an effort to save animals. It's a place to connect volunteers with rescue needs.

"My wife had been transporting animals by driving prior to our involvement with Pilots N Paws. Now, we spend time together by flying them," said Dave. "It was an automatic connection. I feel blessed to be able to do the charity flying."

Innovations in Flight Family Day

There's also an educational component to Dave's hobby of flying. In June of this year, the Smithsonian National Air and Space Museum held its Innovations in Flight Family Day and Outdoor Aviation Display at its Steven F. Udvar-Hazy Center in Chantilly, Virginia <<http://innovationsinflight.si.edu/2015/04/22/mu-2b-60-2/>>.

Dave flew his MU-2 in for the event. His was one of more than 50 aircraft – vintage, recreational, and home-built – on display. Visitors of all ages enjoyed a variety of presentations and demonstrations, including large aircraft tours and hands-on activities. It's a free event and one he's keen to participate in. Dave reckoned, "Each year I speak with thousands of people in attendance."

In connection with his proximity to the nation's capital, I inquired about the possibility that Dave might be involved in other ways with governmental affairs. He conceded his only FAA involvement thus far has been support for the "Be a Pilot Day," referring to the Udvar-Hazy event by its former name. He noted he's always eager to support this activity, and suggested a willingness to do more in support of GA.

While off duty from his numerous volunteer activities, Dave "works" as a consultant. He's been a civil adviser to NATO since 2011. Dave was also one of several who commented on an FAA review and subsequent AD on the MU-2 (AD 2015-01-02).

More Dave Online

Dave can be found online in other places where it's easy to see his passion lies in flying. In a separate Yahoo Group, he led a discussion comparing twin-engine aircraft (Baron, King Air, Aerostar). Dave props up the MU-2 as, "The BMW M5 with more horsepower but lower fuel burn, superbly engineered for maximum performance yet built like a tank." In the same conversation, he recognizes, "The King Air is a Toyota Camry, reliable, well built and dependable." His comments are backed up with numbers <<https://beta.groups.yahoo.com/neo/groups/dcpilots/conversations/messages/52094>>.

Dave is also active in places like Twitter, Quora, and AirplaneGeeks. From quora.com, the "best answer to any question" website, a user posed the following question: "Can you name fixed-wing aircraft widely used in the 70s & 80s as pax utility planes... [that] meet

the following criteria: Single-pilot certified, seat more than seven (but less than 20), pressurized cabin, very rugged with STOL abilities to operate from grass strips, relatively high cruise speed and endurance (greater than 320–350 knots, 5–6 hours)?”

Dave’s reply: “Your best bet for these would be either the MU-2 or Cessna Conquest. The Conquest is a bit faster. The MU-2 is more capable of handling the rougher strips. Your speed numbers are a bit high and your endurance numbers are high absent additional fuel tanks for a turboprop of that size, but they are not impossible. The MU-2 Marquise could seat up to 11, had a 5-hour endurance and was just under a 300-knot cruiser.”

On AirplaneGeeks.com, an online weekly audio program that looks at the world of aviation, Dave was featured in a podcast <<http://www.airplanegeeks.com/2015/06/23/airplanegeeks-355-innovations-in-flight-family-day-2015/>> describing his participation in the “Be a Pilot Day.” At 1:03:30 into the audio file, Dave admits to being an airplane geek and speaks of his involvement with the museum. He’s joined by his 12-year-old daughter and “co-pilot.”

In the “social media” world of today, it’s difficult to predict where the next “trending article” or “viral video” is going to pop up. These online communities often intertwine with each other. Dave is there to satisfy people’s browsing cravings.

Meet Dave

“I’ve been interested in aviation since I was a little kid,” Dave revealed, adding that he started flying back in 1990 in mainly light general aviation (GA) aircraft. He also alluded to having had access to a variety of aircraft including King Airs and Cessna 421s.

Today Dave considers himself to be “fairly knowledgeable about GA in general.” But despite his vast flying experience and broad knowledge, he’s only previously owned one airplane, a Mooney K-model. The Mooney M20K was the first to introduce a six-cylinder engine. Subsequent models would continue to be modified to increase speed.

Mooney had a history with Mitsubishi. In 1963, Mitsubishi granted Mooney Aircraft rights in North America to assemble, sell and support the MU-2. In 1965, Mooney established a facility to assemble MU-2s at its new factory in San Angelo, Texas.

By 1969 Mitsubishi took over the facility and production of MU-2 aircraft.

While working in a Naval office, Dave was able to use his Mooney for travel to visit sailors under his command. As a recruiter, he traveled a four-state territory in his aircraft while others performing similar duties were driving to meet recruits. Dave acknowledged he had a bit of an advantage.

The Mooney was sold prior to his being stationed overseas. Upon Dave’s retirement from the Navy in 2010, he began work for a tech company. “I was in a fortunate position of being well compensated,” and this afforded him the opportunity once again to buy an airplane for which he was grateful and eager.

Discussions between Dave and his wife took into consideration his airplane hobby as well as their personal needs. Under her criteria, she defined the Mooney as not comfortable for what was now their growing family. She wanted two things, the ability to get up and move around, and a toilet in the plane.

Swallowing heavily, he began a serious look at cabin class aircraft, including the Beech Queen Air and Duke. But with these aircraft, “there was not a lot of excess power,” Dave noted. He also desired a more reliable turbine engine.

Dave looked at Walter-converted King Airs and Cessna Conquests. Pointing out what a nice airplane the Pilatus is, he knew it was out of his price range. Similarly, the TBMs were “too small” for a walk in the cabin by his chief of family.

On discovering the MU-2, Dave was impressed by its performance numbers. It looked to be the most promising. He found the then MU-2 Forum and joined to start looking and listening with regards to owner/operator experiences.

Later, he spoke with training provider Reece Howell who offered Dave a look and test flight in the aircraft. Enthusiastically, he booked a one-day round trip flight to see the MU-2. His first exposure was “an informed look at the plane,” noting he even “sat in on a training session.”

“What I believed to be true was absolutely right.” Dave concluded the MU-2 is a high performing aircraft and one that must be flown correctly. He added, “Like the Mooney, if you control speed everything is as it should be.”

Dave soon set about learning all about the MU-2 models, including the long fuselage MU-2G through “Marquise” models and the earlier short body and “Solitaire” models. He started watching the market, hoping for a chance to become an aircraft owner for the second time. While talking to brokers and community members, Dave was impressed that all were generous with their time, recognizing Pat Cannon, Rick Wheldon and Authorized Mitsubishi MU-2 Service Center owner Mike Laver.

At one point, Dave uncovered an available MU-2 and made plans for its acquisition. Regrettably though, he was unable to finalize the deal prior to the seller’s end of 2011 deadline. Waylaid by the purchase, and fellow MU-2 owner Ken Andrews, Dave pressed on confident he’d find another.

Dave’s newly befriended guru/consultant, Mike Laver, informed him of a Marquise he thought “might come available soon.” Excitedly, Dave contacted its owner, Herb Coussons, and began a comprehensive pre-buy review that included having the aircraft checked out by Jet Air, Coussons’ nearby Authorized MU-2 Service Center.

To Dave, the plane sounded good. He bought it sight unseen on April 2, 2012. Two days after taking delivery at his hometown airport of Manassas, Virginia he started training with Reece Howell and Jerry Adcock.

Of the experience, Dave said, “The value of the MU-2 training speaks to its present reputation for safety.” He likened it to the military, “where you take young 22-year-olds and have them flying high performance fighter jets. There is a very well reasoned discipline about learning such a complex machine.” On the MU-2, Dave added, “If you follow the steps, the SFAR makes it inherently safe.”

Why an MU-2

In speaking of the bird he flies, Dave tells his story, “The MU-2 is the first airplane in the world designed from the start to use a turboprop engine. 2013 marked the 50th anniversary of the first flight of this incredible performer long known for extracting every bit of speed out of the available horsepower due to the unique nature of the wing which features double-slotted fowler flaps that substantially increase the wing size when extended and permit slow approach speeds for takeoff and landing while also permitting high speed cruise with the wing ‘cleaned up.’

“N130MS is a Marquise – the last long body variant of the MU-2 produced. It is powered by two Garrett TPE-331-10 engines delivering 759 shp each (715 from the propeller and another 44 from the engine exhaust) giving the plane a total of over 1500 shp and a cruising speed approaching 300 knots (345 miles per hour). The previous owner of this particular plane was based in Europe, and the aircraft crossed the Atlantic numerous times. To support the trans-Atlantic flights, it is equipped for HF radio communications as evidenced by the HF antenna wire stretching between the fuselage and the top of the vertical stabilizer.”

About flying the MU-2, Dave says, “What’s not to love? It’s fast, it’s efficient, it’s a pilot’s dream of an airplane, it’s cost-effective, it’s comfortable, it’s very easy to fly, and it handles well. I generally fly single-pilot IFR. When weather is lousy it flies like it’s riding on train rails. It’s perfect, it’s a great plane to fly.”

New Owner

After Dave bought his MU-2, he took over administration of the email list of the Mitsubishi Pilot’s Online Group, the forum and owner/operator website <<http://mu-2aopa.com>>. Now, he’s devoted to sustaining delivery of useful content and relishes the opportunity to socialize with like-minded MU-2 pilots and professionals.

The MU-2 for Dave is part tool, part hobby. This meshes well with his diverse reasons for flying. He divulges, “I would say half of my flying has been done for charity.”



For Dave, aircraft ownership was never seen as follow-on to a military flying career. In fact, he had no particular flying experience, or flight training, while in the Navy Air Defense Command. Although he welcomed the opportunity to join the Navy, he simply did not have the required 20/20 vision. “But I did spend time in naval aircraft,” he noted.

PROP Participant

As should all MU-2 pilots, Dave attends PROP (Pilot’s Review of Proficiency) < <http://turbineair.com/prop/>>. He’s done so twice, in 2012 and 2014, since his MU-2 purchase. Of the event, he says “It’s the best safety and pilot education I’ve ever been to. It’s great to interact with community. There’s a willingness to help each other out.”

In 2012 Dave brought a co-worker with him. Though not an MU-2 pilot, his co-worker at the time was a student pilot intent on learning about aviation. PROP is an open event with the purpose of promoting safe operation for any pilot. Accordingly, both were encouraged to attend.

AirVenture MU-2

As a writer/marketer/consultant, I’ve been to the renowned AirVenture Oshkosh fly-in numerous times. When someone says, “It’s a must-see event,” take their word for it. It’s the place to see just about every aircraft ever made, especially if one of its type is still in flying condition. For years it was strange to me that the contingent of MU-2 aircraft went unrepresented at the show. Understandably, for an out-of-production aircraft, Mitsubishi has limited interest in an appearance.

Nevertheless, Dave is one of the few MU-2 drivers I’m aware of to immerse in the full AirVenture experience. He’s attended twice, each time having camped in the North 40—the non-show-plane camping area. As Oshkosh’s off-pavement taxiways and camping spots, when wet, can swallow the wheels of heavy aircraft, Dave said the MU-2 proved itself more than capable of mixing well with other “light” aircraft.

In fact in 2014, “There were three ‘Mits’ parked on the end of a row.” Dave underscored, “These end cap slots were due to the aircraft’s size. It was an impressive site to see them lined up with the other smaller aircraft.”

In 2013, Dave took his children for the first time, including his 12-year-old daughter and 18-year-old son. Dave tells of how his daughter “really shows a love for aviation and flying.” Meanwhile, his son “just enjoyed

being at the big event with many things to see.” Now in college, Dave says his son sees his aircraft-owner father as merely a means to a destination.

Family Transportation

When asked about other family trips or memorable flights, Dave identified two. First was a cross country to Arizona with destinations Monument Valley and the Grand Canyon, which Dave recalled as “spectacular flying and scenery.” Next was a flight to New York where the Klains flew the Hudson River corridor. 1000 feet above the river, Dave delightedly commented how “stunning it was to see the Statue of Liberty and Freedom Tower above us,” adding “The MU-2 allowed us to safely execute such a flight.”

In speaking of his daughter, for whom flying is about the journey, Dave highlighted that she is likely to begin flying lessons when old enough. While seemingly more enthusiastic about the transportation aspects of flying, Dave took pleasure in hearing his son remark it was impressive to see buildings “right off their wing tip.”

Can’t Say Enough Good Things About the MU-2

In talking about things that make a flying hobby possible in the MU-2, Dave summarized, “Economics. There’s not another twin turboprop that could operate as cheaply and cost effectively as the MU-2. The engines are reliable and it’s fuel efficient relative to other turboprops.”

Not content stopping there, Dave expanded, “Low cost of ownership, low acquisition cost usually equals less performance. Not so with MU-2, you get all the performance and lower costs. Speed and high wing loading means it’s stable in turbulence and this adds to its comfort. The MU-2 does well at high speeds and it is still capable of maneuvering slowly. Plus it offers excellent performance off grass, gravel, dirt, and short fields.”

Only once was Dave unable to fly his MU-2, and that was the same day the airlines were not flying. Referring to the events on September 11, 2001 Dave accentuated his involvement with the Wounded Warrior Project.

Dave is an owner/operator who can’t say enough good things about the MU-2. “It simply does a lot well.”

To visit the MU-2 Owner/Operator Forum, go to <<http://www.mu-2aopa.com/fudforum/index.php>>. You can also get there by visiting www.mu-2aopa.com and clicking on “Forum.”



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1979 Mitsubishi MU-2 Marquise / SN749SA

6225 TT 4539/2863 TSO
846/735 TSHSI / Props OH 2013
Current Insp / Recent Windshields
Frame Insp by MU-2 Svc Ctr

1978 Mitsubishi MU-2 N Model w/ -10s / SN728SA

10181 TT 2791/2791 TSO
275/275 TSHSI / Props OH 2015
Fresh 100/200/500 1/2/3yr
Windshields 2 yrs, 530W / Avidyne

1976 Mitsubishi MU-2 L Model / SN687

5986 TT 4022/679 TSO
680/n/a TSHSI
Jan 2015 100/200 1&2yr, ADS-B Out
(2) Heated Windshields, G600, (2) 430W

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Pat Cannon



Turbine Aircraft Marketing, Inc.



Dear MU-2 Magazine Reader,

My name is Richard Shine, and I am the CEO and Chief Pilot of Manitoba Corporation, a family-owned metal recycling company founded by my grandfather in 1916, and based in Lancaster, NY. Like many of you, my business would not exist today without my Mitsubishi MU-2. It has allowed us to go outside our region and generate the product we need to stay in business. We're able to make quick trips, see the right people, and yet be back to mind the store. And for nearly

20 years, our NBAA Membership has been indispensable in that process, ensuring we use our aircraft as safely, efficiently and cost-effectively as possible to achieve success for our company.

I believe so strongly in NBAA, in fact, that in 2008 I joined the Board of Directors and am now a past chairman. I am committed to ensuring that the many small and mid-sized companies in NBAA's Membership continue to have a strong voice on the Board.

I have often been asked, "As an MU-2 operator, why do you belong to NBAA?" And my answer is always the same: If you use your airplane for business – no matter how large or small the plane or the company – NBAA has resources to help you succeed. In fact, there are a number of Member benefits designed *specifically* for owner/operators, single pilots and anyone using a light business aircraft (LBA). Here are just a few I think you will find particularly useful:

- **LBA Flight Operations Manual** – provides guidance on topics such as safety management systems (SMS), standard operating procedures, qualifications and training, and includes a risk assessment tool designed specifically for LBA operators.
- **Operations Service Group and NBAA's Website** – gives you access to expert help on *any* issue you face. Whether it's a question on taxes, regulatory changes, personal use of your aircraft or any number of topics, you can research and find the information on www.nbaa.org, or simply call or email one of the on-staff industry experts in NBAA's Operations Service Group Help Desk, and they will have the answers you need.
- **Reimbursement of Flight Expenses for Owner Pilots Handbook** – a comprehensive reference guide to help you gain the maximum Federal reimbursement cost benefit from your airplane.
- **Frontline Advocacy** – NBAA represents the interests of *every* company using an airplane for business, working hard to fight onerous proposals – which could have a devastating impact on your business and your bottom line. Adding your voice to NBAA's will greatly strengthen the Association's work in Washington, and help protect the future of this industry.

I would like to extend a special offer of \$189 first-year dues to all of my fellow MU-2 Magazine readers. Simply join online at www.nbaa.org/join/MU2 and enter Promotional Code: **MU2MAG** when prompted in the payment section. I look forward to welcoming you as a fellow Member.

Sincerely,

Richard Shine
CEO and Chief Pilot, Manitoba Corporation
Past Chairman, NBAA Board of Directors

Are You Really Compliant?

SIMPLE RULES TO KEEP YOUR HEAD IN THE CLOUDS.

by Pat Cannon

OK, I know. I can hear the groans already, “Oh no, are we talking about regulations again??” I get it! No one really wants to talk about the rules, especially if you think you know them. AH HA! Therein lays the root of the problem.

Every time we do PROP, we start the SFAR 108 program by asking some fairly basic questions regarding how you stay current under the SFAR. You might be surprised at the large percentage of answers that are wrong during that Q&A session. Remember, we do this

with our audience response system and while we don't track results electronically, we do sit up and take notice of how many pilots have the wrong perception about how to keep current and legal under the SFAR.

During PROP 2014's SFAR session, I remember being very surprised by the imbalance of right / wrong answers to some of the questions. If the answers we were seeing are representative of what pilots are actually doing, then it is likely that at any given time, there are a

number of pilots who are flying out of compliance with some part of the SFAR. The SFAR itself is a very simple document. If you extract only those paragraphs that apply directly to you, it is an easy read.

So, I want to discuss this in two parts. The first part deals with what is actually required to stay SFAR compliant and some of the pitfalls based on the way the rule is written. The second part will deal with this issue from the school or instructor's standpoint and how training is conducted.



Pat Cannon is President of Turbine Aircraft Services. He is an FAA Designated Pilot Examiner, former MU-2 Demo Pilot, and Safety Expert.

The SFAR can be broken down into simple terms. If you remember these few items, you can assure yourself of not getting into trouble because you didn't know.

Follow these six simple rules and you will stay compliant.

- 1** Everyone enters the SFAR training rotation through either an Initial or a Requalification course. No one starts at the “Recurrent” level.
- 2** Once an Initial or Requalification is successfully completed, you NEVER have to repeat it regardless of how much time goes by. Initial or Requalification is a one-time event only.
- 3** While your base month for your SFAR annual training event has a one month before and after grace period, you are not resetting your base month. To reset your base month, you must train outside of that three month window. But, be careful! Once outside the window on the “after” end, you may not act as PIC of the MU-2 until completion of training. That means that you may not even fly your MU-2 as PIC to the training facility.
- 4** The FAR 61.56 (Flight Review) must be done in the MU-2 to be valid for the MU-2. An MU-2 Flight Review is good for all other types, but not the other way around.

IMPORTANT POINT: Your flight review does not have a grace period. If you extend into your grace period through your base month, you may be flying out of FAR 61.56 compliance. In application, if you are accomplishing your training in the aircraft only and are out of FAR 61.56 compliance, you once again cannot fly as PIC to the training facility. If you are training in the simulator, this would only matter if you desire to take your aircraft to the simulator training facility to accomplish the one hour of flight time requirement as part of that training cycle. However, if you are in your grace month, you cannot fly the aircraft to the simulator facility either. These finer points regarding your base and grace months are important to looking ahead and the full effect of using your training grace month.

- 5** As an extension of the previous point, to complete the flight review requirement, you are required to fly at least one hour in the aircraft every other year with an instructor.

If you are accomplishing your annual training in the aircraft already, this flight review is likely included in your training package. If you are training in the simulator, and you don't have your aircraft with you, any SimCom instructor who is current and qualified under the SFAR may perform that one hour with you to complete the 61.56 flight review.

- 6** A quick note regarding your viewing of the icing video. This is an annual or biennial requirement driven by an AD 2000-09-15R1. If flying an aircraft without Trim-in-Motion and Autopilot Disconnect Systems mandated by this AD, but under the FAA issued Alternate Method of Compliance (AMOC), the icing video must be viewed once a year. If all systems required by this AD are installed, the icing video must be viewed every other year. Neither the AD nor the AMOC requirement to view this video has a grace month. Keep in mind that while you can legally fly the aircraft without icing video currency, it would restrict you from filing and flying in any known icing conditions until completed.

Part two relates back to what I said earlier about our overriding desire to get into and finish training in the minimum amount of time with the least effort, hassle and fuel burn. I get it. But let me ask a couple of questions. Do you approach training only to fill a box? Or, do you actually want to come away having learned something new or to increase your knowledge, skills or ability? Do you demand to be challenged by your instructor in a way that improves your proficiency in the aircraft? After over 40 years of attending MU-2 training annually (even before the SFAR), I have never come away without some new little tidbit of information, or have reviewed something that I had forgotten through my years of association with the MU-2. In addition, I demand that the instructor challenge my proficiency during every training cycle. Hey, the older I get, the more I appreciate coming away from training feeling that I'm just a little better for the exercises I have done. It makes my instructor feel like he has accomplished making me a little better as well.

In my opinion, if you are just riding through training without requiring your instructor to challenge you just a little bit, then you are not getting your money's worth. In addition, if you are skipping maneuvers from the 28 required SFAR profiles, you are not only non-compliant with the SFAR, but you do a disservice to yourself, the instructor and your passengers through the loss of this experience.

An old adage says, "As we get older, we get better. In reality, we get complacent, forgetful, rusty and are not as smooth on the controls as we once were. This can unknowingly lead us in the wrong direction toward that "know-it-all attitude". Let's be realistic. We all, and I include myself, fall victim to this syndrome. Our responsibility, not only to ourselves, but to those that fly with us, is to avoid letting this attitude override good judgement, especially to the point that you are not prepared for that rare emergency when it happens.

I want to make one additional point by way of a question. When you train in the aircraft, are you logging block time or Hobbs time? Of course logging block time is perfectly legal and most pilots, when flying, are and should be logging block time. After all, you are in control of the aircraft in preparation for flight. During training though, we have all learned that it is next to impossible, when accomplishing the 4 hour in-aircraft training requirement, to accomplish all 28 profiles, as the SFAR mandates. It's actually difficult to do them in the 6 hours you get in simulator training. Sure, you can get the 4 hours and zip, you're gone, but did you get the

training you came to get, or did you just check the box? Think about it. When evaluating your cost to train, I think that you should evaluate the value for the dollar spent, whether that be in airline travel and hotel, aircraft variable and fixed costs, or just in time spent away from family and work. It all comes down to "bang for the buck".

As a suggestion, do the time, make the effort, ask to learn something new. Pay attention to whether you feel like you spent your money to increase your flying knowledge, skills and ability. Do not spin your wheels. Spinning wheels make for a slippery slope.

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Inspection After PAINT

by Joe Megna

IS THERE ANYTHING TO BE DONE AFTER YOU RETRIEVE YOUR AIRCRAFT FROM THE PAINT SHOP?

I BELIEVE THAT MAINTENANCE FACILITIES WOULD OVERWHELMINGLY SAY, “YES!”



Joe Megna served in the US Navy working on carrier-based aircraft in Southeast Asia. Joe started with Jet Air Corp. in Green Bay, WI in 1978 working on MU-2 aircraft and left Jet Air Corp. as General Manager in July, 2015. Joe is now the Product Support Manager for Mitsubishi Heavy Industries America in Addison, TX.

During the painting process chemicals are used and plenty of paint dust is generated in the preparation for paint. Often, lubricants and grease are removed using chemical strippers. These strippers, which are applied for the removal of the old paint, can create havoc with bearings, windows and rubber seals to name a few. While the paint shops try to protect against any damage to your aircraft or components, the depth of the job may make this unavoidable.

On a recent inspection of an “aircraft after paint”, the stripper had found its way under rivet heads on the lower inboard wing, which housed the main fuel tank. This not only caused a fuel leak but also

required the main fuel tank covers on top of the wing to be removed for access to the fuel bay for the new sealant. While the sealant takes time to cure, you can look forward to repainting the lower wing affected area. If you’re lucky, you may not have to repaint the fuel bay covers and screws. Generally the paint shop will supply you with a paint touch-up kit; at least the colors will match, but you really don’t want to have to use this kit so soon after you have the aircraft painted.

The elevator and rudder assembly attachment fittings have rubber seals which protects the bearings. This can also be said for the spoilers. The flap universal joint rubber

boots aren’t as vulnerable, but should also be inspected and cleaned. Flight control cables should be inspected, cleaned and coated with a preservative in all affected areas where the coating has been removed by stripper.

Landing gear are often painted as well. Remember, there are a hundred or so grease/lubrication points throughout the landing gear system and we all know that keeping the aircraft gear lubricated is one of the best ways to prevent gear problems. Even though you may have flown your aircraft for a post-paint inspection and the gear went up and down, you should have your maintenance facility perform normal and emergency gear



Your paint shop wants to have a satisfied customer and they usually try to ensure the job is done right. But, always remember that they are typically a paint shop and not necessarily a maintenance facility.

checks. Better to find a problem on jacks in a maintenance hangar than in the air.

Paint shops should always remove flight control surfaces for painting and then balancing. An inspection of the attachment point should be conducted during a very thorough preflight to provide “a second set of eyes.”

Let us not to forget about the flaps. Metal flap-nuts ride on metal jackscrews with only grease for protection. After stripping, this lubricant may have been removed. In addition, there are many other lubrication points on the flaps including hinges on the aileron trim system that may need the lubrication replaced. Have the static wicks been re-grounded to the airframe?

An inspection of the fuel tanks and inline fuel filters should also be considered. How paint chips end up inside the tank seems to be pure magic, but in most cases you’ll find them, and from there, they find their way into the inline fuel filters which may cause fuel transfer problems.

An inspection of all windows would be highly recommended at this

time. One drop of stripper or a cut around the edge sealant could reject a window during your next inspection. Remember there is an AD requirement every 100 flight hours to inspect the windows for thickness or defects. 100 hours after your paint job isn’t the time to find out you need to replace a window because of damage caused during the painting process.

Checking the aircraft for the required external placards is also necessary. These placards and their locations can be found in your AFM and Pilot’s Operating Manual.

One other item that I would recommend is that inspection panels be removed and painted separately, then installed with stainless steel screws. This option may not be feasible for some of the panels, due to the paint scheme or striping. Nothing is more frustrating for your maintenance provider than at your next inspection to have inspection panel screws that are painted in tight. Drilling and E-Z outing of screws, not to mention paint chips and painting new screws, can mess up your new paint job. Your maintenance

provider certainly doesn’t want to be the first to do that.

Before your paint job even gets started, I would recommend a detailed inspection of your aircraft with a representative from the paint shop noting the condition of the deice boots, windows, seals, placards and the list goes on. This will help your post-paint inspection; it will be much easier to resolve disputes over discrepancies found if you have documentation. Consider photos, before and after, and then try to reach agreement before you leave the paint facility.

Your paint shop wants to have a satisfied customer and they usually try to ensure the job is done right. But, always remember that they are typically a paint shop and not necessarily a maintenance facility. Your aircraft has been on the ground and in the paint shop for weeks; you’re ready to get back to flying and maybe a little rusty. So how about a flight to your maintenance provider for a quick maintenance inspection? Ideally a 100/200 hour should be coordinated after paint where the above listed inspections would be covered.



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An Overview of the Mitsubishi MU-2 Maintenance Program

by Rick Wheldon

The FAA handles turbine aircraft differently than piston-powered aircraft, at least with regards to maintenance.

FAR 91.409 (e) and (f) combine to require operators of MU-2 aircraft to select an aircraft inspection program from among four options. The first two options are available only to Part 121 or 135 commercial operators, and the fourth option requires special approval of a proposed maintenance program by your FSDO. That leaves option #3, “a current inspection program recommended by the manufacturer,” as the most likely selection for most owner-operators.

With that in mind, let’s review the MU-2 manufacturer’s maintenance program.



Rick Wheldon is Vice President of Turbine Aircraft Services. He is an Aeronautical Engineer, and is a former U.S. Navy aviator and MU-2 Demo Pilot.



Mitsubishi publishes two inspection manuals, titled “Maintenance Requirements Manuals (MRM).” One is for short body models, and the other for long aircraft. Selection of the appropriate MRM for your model satisfies the requirements of FAR 91.409 (f) and should be recorded in the aircraft’s log books.

The MRM is a different manual from the model specific Maintenance Manual, and both are required to conduct an inspection. Also required for an inspection would be a current Illustrated Parts Catalog, again model specific, and access to ADs. The maintenance shop should also track and comply

with Instructions for Continued Airworthiness (ICAs) which were approved by the FAA as part of the STC process for later STCs. Note that earlier STCs were not issued with ICAs, but regular inspection and tracking of many earlier add-on systems would be prudent. One early STC that comes to mind would be the tip tank fuel dump system. I would think that the last place you would want to find a single tip dump valve stuck shut is during an engine failure when the dump valves were selected to open. Finally, the maintenance shop should have access to Service Bulletins (and other MU-2 Service Information). Service Bulletins, while technically not mandatory by FAA standards,



are nevertheless items which MHI considers “safety of flight,” and compliance should be seriously considered by all operators.

Maintenance Manuals provide systems descriptions (often more in depth than provided in the Pilot’s Operating Manual, since these descriptions are intended for mechanics), and cover servicing, inspection, repair, replacement, and troubleshooting for the various systems. For a pilot desiring a more

in-depth understanding of the inner workings of his MU-2, a Maintenance Manual might be a worthwhile addition to his library.

Maintenance requirements would include inspection items from the MRM and should almost certainly include items outside the MRM as well. Recurring ADs such as the flight idle fuel flow check and the acrylic window inspection should be inspected/tracked, as well as ICAs. This is where a competent maintenance shop is essential for pilot owner/operators. Although legally responsible for the maintenance of their airplane in an airworthy condition, owner-pilots seldom have the experience to even know where to find the various disparate requirements. Your maintenance shop is your hired “expert.”

Note that MRM maintenance inspections typically allow “overfly” limits for the various inspections. Allowable overfly varies, but can be found in the preamble of each inspection. Multiple overflies, one after another, are not allowed, and the interval for a subsequent inspection must be adjusted downward by the amount of any such overfly, so that inspection due times continue at the published inspection intervals. This sometimes presents a problem. When the FAA issues an AD, an overfly is typically not allowed. To remain airworthy, the operator may have to perform extra interim inspections on AD items such as the flight idle fuel flow check and the window inspection.

As recently as the 1990s, the MU-2 inspection program consisted of inspections at 100 hour intervals without regards to calendar times. Inactive aircraft could be hangered for many years while remaining airworthy with regards to the

maintenance program. Those aircraft could then legally be flown just by completing ADs and FAR-mandated inspections such as the annual ELT inspection. A shortcoming of this arrangement became apparent since servicing was so very important to proper operation of many of the MU-2 systems. Gear and flaps, especially, required fresh grease on jackscrews, nuts, linkages and switches. Grease dries over time, and inactive aircraft that were not properly serviced suffered increased wear on mechanical parts and possible decreased reliability. For that reason, the inspection program was modified to include calendar limits for some inspections. In rough terms, the old 100 hour was split into 2 parts, each to be accomplished within a one year calendar limit and a flight time limit. The larger of the 2 parts, about 2/3 of the prior 100 hour inspection, became the 100 hour/1 year inspection, to be accomplished at whichever limit occurred first. The remainder became the 200 hour/1 year inspection. The only other structural change to the revised program was that the majority of the old 500 hour inspection became a 600 hour/3 year inspection.

Effectively, the major impact of these program changes was that MU-2 aircraft flown less than 100 hours a year would have to do annual inspections and annual servicing, conducting both a 100 hour/1 year and a 200 hour/1 year concurrently based on the calendar requirement. There would be some increase in the maintenance cost per hour, but the new program then was no different in concept from performing an annual on an Aerostar.

For aircraft flying between 100 and 200 hours per year, most

maintenance shops suggest that the operator perform the 100 hour/1 year and the 200 hour/1 year requirements at every inspection. This would reset the one year limit so that the 200 hour/1 year inspection would not reach its calendar limit awkwardly between 100 hour/1 year inspection due dates. Remember, in this circumstance the operator would be doing no more than the old 100 hour inspection when it became due under the previous program.

Finally, for aircraft flown more than 200 hours a year, the inspections could be alternated between the 100 hour/1 year by itself and the combined 100 hour/1 year and 200 hour/1 year. This causes alternate inspections to be slightly less costly.

In summary, pilot/operators should establish some method of tracking the various inspections and requirements. Typically, when an airplane comes out of an inspection, a reputable maintenance shop would provide a status sheet listing all recurring maintenance items and when they become next due. It then becomes the operator’s responsibility to carefully review the spreadsheet and comply with upcoming inspection items, including items that come due between inspections. In our operation, we track the maintenance requirements in house with our own spreadsheet, and monthly we update aircraft Hobbs readings, cycles and date. It takes about 5 minutes for the end of month update, plus a few minutes to update compliance whenever maintenance requirements are accomplished. In this way, we can walk into any FAA office any time and demonstrate airworthiness.

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