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THE PRESIDENT'S CORNER

Dick Perschau
President and Board Member

Dick started flying around age 12 and got his private license at age 16. He remembers falling asleep in Paul Poberenski's garage while his Dad, Uncle Vern and Paul talked about setting up an "Experimental Aircraft Pilots' Organization".

Dick entered the Air Force after medical training, became a Flight Surgeon and flew over 2,000 hours in fighter squadrons with time in F-100s, F-4s, F-111s, F-105s, F-5s, F-18s, F-104s and the F-16. He recently "retired" to a USAF Reserve consultant in Anesthesiology after 27 years of active and reserve service.

Currently in active practice in Anesthesiology in Austin, Texas, Dick is in partnership with two others in Malibu 4377A. With about 2300 civilian hours and about 300 in the Malibu, he considers the Malibu "one of the sweetest airplanes he has ever experienced".

It is a cool, sunny Sunday morning here in Texas - just one week since our COS annual meeting. I'm quietly sitting here with a cup of "Norwegian Motor Oil" reflecting on many thoughts of the event. We set out with many goals as a young organization. One was to provide for our members an annual meeting worth coming to for both didactic and social activities. From your many positive comments, I think we are succeeding.

I feel that members, and especially non-M-MOPA operators, are missing something by not attending the convention. Seek them out and encourage participation. We brought in a record 97 Malibus to COS, and are at a record 323 membership. There is great enthusiasm, and the organization is strong.

The pre-convention activity was fully subscribed to with 35 members visiting our NORAD Command Center inside Cheyenne mountain. The tour enlightened us as to the eyes and ears of our country's defense system.

Since my bird was in the shop, Dave Coats graciously offered a ride in N4388M from AUS to COS for the meeting. Dave's Malibu has the first RAM/Waco TX cooling modification. Mr. Jack Riley's engineers at RAM have been doing a prodigious amount of research on a cooling package for the Malibu. Each time I would call Jeff, their chief engineer in charge of this project, he would encouragingly claim a few more degrees of cooling. After extensively louvering the nose gear doors (expensive), he finally called rather excitedly to say "you don't need those doors".

So, Dave and I flew the first RAM modified Malibu to COS - sans nose gear doors. The RAM mod basically removes the doors, dresses the gear well cosmetically, flanges the front and back of the well to eliminate some air buffet, and extensively baffles and seals the air flow through the engine compartment.

On climb out, at 35/25 and leaned back to 28-30 gal/hr to 16,000 feet, we never saw the Insight/GEM CHTs over 350 degrees. At 16,000 feet, 65% power, 14.3 gal/hr, oil temp at 150 degrees, and 50 degrees lean of peak, TIT at 1510, the average Insight/GEM CHT was 250 degrees (200-275)! I have never seen the analog CHT stay at the bottom of the green for the entire cruise. Loss of TAS was only about 2 knots. I think RAM is really going to help us out of some of our heat management problems. The current kit sells for under $1300. Plus, it looks good cosmetically. If there is enough Mirage driver interest, RAM will also invest the necessary R&D money for the Mirage. Let them know.

One of the meeting fly out activities this year was a fly out to Aspen, arranged and organized by Bill Prymak, N589E, who keeps a second home in this charming village. Being a bird, Bill was very kind to offer me his right seat for this spectacular visual delight. The Aspens were in their peak color turn, and it was almost spiritual.

Bill led the 15 Malibus in, and after landing, he took the group to the top of Aspen Mountain in some sturdy 4-wheel drives for a "tube steak" picnic at 12,000 feet. The 360 degree view of the color turn was awesome. The mountains' brilliant yellow garment was inspirational. I want to thank Bill for his time, and I know, some expense, for organizing and guiding this event. (Also, read about Bill in "What Our Members Are Doing").

Continued on Page 34
Steve Frost

Steve attained his mechanics rating in 1973 and initially worked as an A & P at a local Piper dealership. He then moved on to work with Alaska Transportation Agency, a Piper Aircraft distributor, as Regional Manager from 1975 through 1981. 1981 through 1986 saw Steve as a General Manager for a local aircraft maintenance facility. In 1986 Steve became President and co-founder of Corporate Air Technology, a shop catering to high performance piston, turbine and jet aircraft.

A long time resident of the Santa Cruz Mountains above Los Gatos, California, he enjoys time with his wife Kim and their three children, riding his mountain bike or sailing on San Francisco Bay.

Many pilots have experienced the auto rough mode that aircraft engines often go into when flying over the mountains at night. Nothing gets your attention quite as effectively. It seldom seems to occur in day VFR, with a large selection of airports scattered beneath you.

I am not talking about that occasional hiccup that most of us accept as possibly an encounter with a little turbulence or some water in the fuel. I am talking about the kind of rough shaking that causes the instruments to blur and the sun visors to do a little dance. That’s when your ocular orifices get large, all others get small and you exclaim to yourself “what’s that?”

Quite often the cause is ignition system related. High altitude ignition systems were developed back in the 1930’s as we found ways to push aircraft higher and higher via more horsepower and turbo or supercharged engines. As we started to operate aircraft in the upper atmosphere, the spark produced by the magneto did not always make it to the engine. Although electrons are speedy and powerful little fellows, they are quite lazy, always taking the path of least resistance.

Most of the problems with early high altitude aircraft were corrected by using heavily insulated and shielded wire on the harness as most of the problems were occurring in the harness to the spark plugs. Keep in mind that, back then, they were working with large radial engines. These engines had mags that were about the size of a bowling ball.

What does size have to do with it, Mr. Wizard?

The terminals were quite a ways apart on those old mags. As we made magnetos smaller, the air gap between the terminals also became smaller. Now if you will recall those lazy electrons (well, they’re not really lazy, they’re just full of electronic hormones, the pluses and the minuses always striving to get together.) As we increase altitude we decrease electrical resistance of the air gap. As a result, those electrons may find it easier to jump to another terminal than to fight all the resistance to squeeze down that ignition lead against all that pressure in the cylinder.

What does all this have to do with the rough engine at altitude?

First, if the spark finds a path to ground before it gets to the cylinder it causes a miss in the engine. Worse yet, if the path it finds is in the magneto distributor block, it may direct the spark to another cylinder. When you start changing the firing order of the cylinders, you can cause some violent shaking.

This can also cause considerable stress on the crankshaft as it quite often creates a power pulse that opposes crankshaft rotation.

How can you tell if the roughness you feel is caused by ignition breakdown or something else?

The problem will always become more pronounced as altitude or manifold pressure is increased. An increase in altitude decreases electrical resistance of the air in the mag, and increased manifold pressure increases resistance in the cylinder. Remember, those little electrons don’t like resistance.
What's the fix?

Have your ignition system inspected by a competent shop.

The mags on your Malibu are pressurized; this increases the air pressure in the mag to increase the air resistance. Your problem may be as simple as worn spark plugs or plugs with too wide a gap. Spark plug gap seems to be more critical on the PA-46-310 airplanes running lean of peak.

Or it could be a pressurization line that has come loose. But if you have noted the problem for any length of time, an internal inspection of the mags should be done. Once arcing inside the mag has occurred, it leaves a carbon track that provides a path for those lazy electrons.

Use caution about who you allow to work on your mags. They need to be worked on in a near surgical environment. If the mechanic removes it, takes it to the bench and proceeds to tear it apart without washing his hands first, he is wasting your time. If the mag is reassembled by greasy hands, the oily finger prints inside make great electron paths.

Also make sure that the mating surfaces are clean when reassembled and use new gaskets. The gaskets on the slick mag on the Mirage uses metal impregnated material in these gaskets to electrically bond the case halves.

Early mags used a simple asbestos gasket that sealed the mag well enough for the pressurization to work well, but did nothing to bond the case halves electrically. Bendix King, Slick Electro, Lycoming and Piper had fits with this as it made the Com radios useless at altitude on some airplanes due to RF interference produced by the mags.

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Be aware that there is a 500 hour overhaul/inspection recommended on PA-46 magnetos and I highly recommend following that schedule. Given current shop labor rates and the high cost of replacement parts, it is quite often more cost effective to exchange the mag for an overhauled unit.

The cost to replace just the points, condenser and distributor block plus labor will likely be close to the price of an exchange mag that comes with additional items like new bearings, coil, cam and a warranty.

So remember to keep your nose and your mags clean and may the wind always be at your tail. **MMOPA**

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John Mariani

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Fall 1994 • Page 6
SERVICE DIFFICULTIES AND ALERTS

KEVIN MEAD

Kevin is the Director of Maintenance and Service Manager for Western Piper Sales, Fresno, California which has marketed and serviced Piper aircraft since 1973. Kevin is an IA who has specialized in Malibu/Mirage maintenance for ten of his seventeen years in general aviation. He is also a licensed private pilot with a multi-engine rating.

Western Piper Sales specializes in the maintenance of Western States Malibu/Mirage aircraft and the worldwide Pressurized Navajo Fleet.

This is the eighth in a series of articles about maintenance of Malibu series aircraft. In the previous article I discussed the PA-46-310P electrical system. This time I will explore the common problems of the PA-46-350P (Mirage) electrical system. The system is essentially the same as the PA46-310P electrical system with two exceptions. The first being that both alternators are belt driven; the second being that the system incorporates a split buss.

The format will be the same as in the previous articles. I will provide a list of common symptoms which will be followed by a list of their possible causes. Lastly, I will list a few measures that can be taken to help eliminate or minimize these problems.

SYMPTOMS

1. Alternator warning light illuminates but ammeter shows normal amperage. This usually occurs in the #1 alternator.

   POSSIBLE CAUSE
   1. Broken wire at the auxiliary terminal of the alternator.
   2. Defective fail sensor in the alternator regulator.

   PREVENTIVE MEASURES
   1. Check for cracked wire ends or loose wires at alternators at every oil change.

   SYMPTOMS
   1. Alternator ammeter indicates "0" but alternator fail light does not illuminate.

   POSSIBLE CAUSE
   1. Broken wire end at alternator output terminal.
   2. Open alternator current limiter.
   (Usually after an alternator failure)

   PREVENTIVE MEASURES
   1. Check for cracked wire ends or loose wires at alternator at every oil change. Note: It is prudent to keep an ALN-80 current limiter on hand as their availability is sometimes limited.

   SYMPTOM
   1. Alternator fails at high altitudes (normally above 12,000') but still may work normally on the ground.

   POSSIBLE CAUSES
   1. Defective alternator.

   PREVENTIVE MEASURES
   1. Failure to repair or replace alternator at the first sign of trouble can cause the regulator to fail. As always, many problems can be prevented by having your alternator repairs performed by an FAA approved accessory shop.

   Note: I recommend an internal inspection of the alternators every 500 hours.

   SYMPTOMS
   1. Improper mounting or alignment of the alternators.
   2. Excessive tension on the alternator drive belts.

   POSSIBLE CAUSES
   1. Premature failure of alternator bearings or excessive wear on the alternator drive belts.

   PREVENTIVE MEASURES
   1. Any time the alternators are reinstalled the alignment and mounting must be done per Textron S.I. #1451.
   2. Readjust new or used drive belts per Textron S.I. #1451. Warning: Over-tightening of the belts can cause total alternator failure.

   SYMPTOM
   1. Alternator field circuit breaker trips intermittently with engine running. Warning light illuminates and ammeter reads "0".

   POSSIBLE CAUSES
   1. Defective alternator.

   PREVENTATIVE MEASURES
   1. You can prevent damage to the regulator by replacing or repairing alternator at the first sign of trouble.

Continued on Page 32
The Aviation Sales, Inc. modern maintenance facility incorporates state of the art equipment to maintain your aircraft.

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THE PC XII has a cruise speed of 270 kts., a range exceeding 1,600 nautical miles, a useful load over 3,400 lbs. and operates to 30,000 ft.

The PC XII was very popular with Malibu/Mirage owners at the 1994 MMOPA Convention in Colorado Springs.

Aviation Sales, Inc. also inventories a wide variety of pristine, low time, late model aircraft. From the Malibu through entry level jets we can offer you professional sales and brokerage services.

AVIATION SALES, INC. wants you as our customer!
A Piper PA-46-310P Malibu collided with terrain while circling to land at Destin, Florida, at about 1420 CST on Saturday, January 1. IMC prevailed at the time and an IFR flight plan was filed for the cross-country flight that had departed Naples, Florida, at about 1230 EST. Witnesses reported seeing the airplane flying toward the northwest roughly one-half mile west of Runway 32.

It was then seen to bank to the left, during which its bank angle increased. Its nose dropped and the airplane descended into trees, collided with a fence and the ground, and then erupted on fire. The airplane was substantially damaged and the private pilot/owner and the passenger were fatally injured. Suspected reason: Pilot - Weather. Hit terrain during instrument approach in IFR/icing. (Probable Cause will be determined by the NTSB.)

A Piper PA-46-310P Malibu made an emergency water ditching near High Island 334 in the Gulf of Mexico at 1806 CST on Saturday, May 7. VMC prevailed and an IFR flight plan was filed for the cross-country flight that had departed Cozumel, Mexico, bound for Houston, Texas.

The pilot reported that they were flying at 14,000 feet when the manifold pressure dropped from 30 to 18 inches. Another airplane on route reported to ARTCC that smoke was trailing from the aft section of the Malibu.

Fifteen minutes later the pilot saw the oil light come “ON” and then heard two bangs from the engine area. The airplane continued to fly partial power at an airspeed of 90 knots while descending at 200 FPM. By 6000 feet MSL the engine oil pressure had dropped to zero and the propeller was windmilling.

The pilot then shut down the engine and made an emergency ditching near an ocean-going barge roughly one hundred and ten miles offshore from Houston. He added that he had completed all check list items except turning the master switch “OFF” before they hit the water. As he reached for the master switch, however, a three-foot wave hit the airplane and he was thrown forward into the control yoke.

The airplane remained afloat for five to seven minutes. During that time they opened the emergency exit, donned life vests, exited through the emergency window, and boarded the life raft that the pilot had deployed. They were then rescued by personnel from the barge. The airplane was destroyed and the airline transport pilot and one passenger received minor injuries but the other two passengers were not injured.

Suspected reason: Mechanical/Maintenance - Oil System. Oil pressure lost, power loss. (Probable cause will be determined by the NTSB.)

A Piper PA-46-350P Mirage collided with terrain just after takeoff from Runway 10 at Lancaster, Ohio, at 1440 EDT on Wednesday, July 13. VMC prevailed and an IFR flight plan was filed for the planned cross-country flight to Des Moines, Iowa. The pilot said that the engine was running rough after the airplane became airborne and its landing gear and flaps were retracted. He tried to make a left turn.

A ground witness reported that the left wing and nose dropped during the turn and the pilot recovered to a wings-level attitude. However, the airplane continued to descend until it touched down in an open field in a shallow left wing low attitude. It then cartwheeled and came to rest upside down. The witness said that the engine continued to run until it hit the ground.

The occupants reported that a fire erupted in the engine area immediately after the airplane came to rest. The main cabin door would not open so they evacuated the airplane through the over-wing emergency exit. The airplane was substantially damaged by the fire and the private pilot/owner and the four passengers received minor injuries.

Suspected Reason: Unknown Causes. Power Malfunction/loss for unknown reason. (Probable cause will be determined by the NTSB.)

The Joseph T. Nall General Aviation Safety Report for 1992 is available from the AOPA Air Safety Foundation.

For a free copy, write: Nall Report, AOPA Air Safety Foundation, 421 Aviation Way, Frederick, Maryland 21701. Enclose a large self-addressed stamped envelope (6” x 9”) with 52 cents postage affixed.
Again this year we were pleased to work with the Malibu-Mirage Owners and Pilots Association to offer the service clinic inspection for the attendees who chose to participate. The service clinic inspection is divided into 19 specific areas of concern and the format affords us the opportunity to inspect aircraft from throughout the U.S. and Canada and report our findings to the M-MOPA membership.

Before I elaborate on this year’s results, I would like to thank the folks at Colorado Jet. In particular, Mr. Jim Buswell and Mr. Mike Elis worked exceptionally well to position the aircraft for the inspections. I would also like to thank the entire service clinic team for their tireless efforts during the convention. Again this year, we were pleased to have technicians from Modern Aero, Mr. Mike Koenig and Mr. Brad Mitchell, adding their Malibu expertise.

Additionally, we were extremely pleased to have Mr. David Scherer join us. Many of you may recall Mr. Scherer (he prefers “Buck’) working on many of the early Malibu repairs and modifications at the Piper service center in Vero Beach some years back. I would also like to thank the crew of technicians from SkyTech, Mr. Charles Massanopoli, Mr. Tim Kitzmann, and Mr. Peter Wagner who rounded out the most experienced team of Malibu specialists every assembled!

Every year seems to provide us with a multitude of surprises and this year was no exception! The first morning greeted us with surprisingly cool temperatures and frost covered aircraft. The second day began with beautiful sunny skies and rapidly deteriorated into a gusty, 30+ knot windy day which played havoc with cowlings and inspection panels. In spite of the weather, we were able to complete 26 inspections on both PA-46-310P and PA-46-350P aircraft. The geographic breakdown of the aircraft was: two Southeast, five Midwest, six Northwest, five Western U.S., five Southeast, two Northeast, and one from Canada.

Propeller

The propeller section of the clinic inspects the spinner, prop blades, de-icer brushes, and a general overview of the nose section of the engine. Additional areas include the alternators, brackets, belts and electrical wiring. We discovered 41 squawks this year during our inspections. A majority of the problems related to the spinner and bulkhead assemblies not being properly shimmed. This condition will positively lead to cracked spinners and bulkheads which are not repairable. This discrepancy has been a common item noted at previous conventions. Another discrepancy noted involved the de-icer brush alignment and wiring, an area which still has room for improvement. We also noted several aircraft with worn alternator belts and mis-routed electrical wiring. Overall, there needs to be some additional emphasis placed on this section by your maintenance facility.

Exhaust System

The exhaust system, holding true to form, turned up a large number of discrepancies. This year’s clinic uncovered 68 squawks relating to the

Continued on Page 28
The following is a direct quote from FAA Certification Flight Tests:

( Temperatures are corrected to simulate a 100 degree F day.)

"The TSIO-550-C engine is very well cooled in this installation; qualitatively, based on my previous experience, it runs cooler than the original TSIO-520-BE engine. Max corrected CHT in MCP climb is 384 degrees F, giving a margin of 96 degrees F below the limit of 480 degrees F. Max corrected CHT at 25,000 feet 'best economy' leaned cruise at 262 HP (75% of engine's max rating of 350 HP) is 403 degrees F, giving a margin of 57 degrees F below the limit of 460 degrees F. [It] is much easier to manage in cruise, without the 50 degree F 'lean-of-peak TIT requirement."

Your Malibu is eligible to have a TCM TSIO 550C engine installed -- rated at 350 HP, derated to 310 HP.

Here is what this new 550C Continental engine will do for your Malibu.

- Take off using only 88.5% power (88.5 x 350 HP = 310 HP). The engine is approved for continuous operation at 310 HP.
- 25% more HP at 75% power (75% x 350 = 262.5 HP as opposed to 75% x 310 HP = 232.5 HP).
- Flying at speeds comparable to your 520 BE engine, the 550C will just be loitering along with comparable fuel flows and less manifold pressure or lower RPM -- which equates to cooler temperatures and longer life.
- Flying at normal power settings, with comparable payloads, your Continental powered Malibu will perform better than a Mirage -- due to approximately 25% more pounds less basic airplane weight and a Continental tuned induction system.
- The 550C engine is approved to use your same propeller -- the external dimensions and weight of the 550C engine are identical with the 520BE, therefore no airplane modifications are required.
- The 550C engine has a TBO of 2,000 hours.

The exchange installed price is $57,000 plus tax. This includes new Lord mounts, hoses, STC and Flight Manual Supplement.

If your Malibu is not already equipped with spoilers, we recommend power pac spoilers. We can install them at the same time of your 550C engine change for $10,750 plus tax.

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FAA STC Number SA0038 OAT • Approved to replace TSIO 520 BE with TSIO 550C
On a hot day in July 1994, I took off for a field 30 miles away to deliver a stranded corporate pilot. The tires were slightly underinflated and the landing was slightly hot with a very long taxi.

I took off immediately to return home. On becoming airborne the aircraft swerved to the right. I figured there may have been something on the runway and asked tower to check my gear which they said appeared OK and they had no reports of anything on or in the runway. I suspected a tire problem and landed very carefully with a blown tire at home base. The aircraft was not damaged and the tire was replaced.

The inner tube valve stem was shorn off. This prompted the article by Dale Halter.

Recommend: Keep tires inflated to proper pressure and to expedite, use extenders for the valve stem to make tire pressure easier to maintain. Watch braking on hot days (>95 degrees)

On a flight at FL 210 noted critical altitude was diminished to 16,000 feet. Suspected manifold leak. Return flight confirmed same findings. On landing, removed cowl and saw no manifold or obvious exhaust leaks. The wastegate seemed well sealed. Removed lower cowl and removed turbocharger. On right side, the weld to the right turbocharger from the exhaust stack had separated about 1/2 inch. No other abnormalities noted and no cockpit abnormalities noted except as described above.

Recommend: Frequent physical examination of exhaust components and pressure test exhaust several times per year. Consider device under cowl to detect abnormal temperatures which could lead to fire.

Please submit flying tips and problems for the benefit of all. There is no reporting mechanism available except for the “Check-In” at the Malibu Log. Help your fellow pilots. Your problems today can be mine tomorrow.

Thanks! Sy Weiner, Editor

Dear Editor:

On Saturday, September 24th at the 1994 Colorado Springs M•MOPA Convention, a speaker gave a Mountain Flying Seminar to the membership audience, and I strongly felt that some of the information given to the Malibu/Mirage folks was inappropriate and indeed very dangerous, to wit:

1. The Speaker spent considerable time and effort telling the M•MOPA audience how to “fly the valleys and canyons” in the Rocky Mountains, detailing how to use “orographic lift”, which canyon walls to hug under certain conditions, hammerhead stalls, and other canyon tidbits applicable for power line patrol, search and rescue operations, but NOT AT ALL APPROPRIATE FOR MALIBU•MIRAGE PILOTS.

2. I was particularly disturbed when one teaching aid color slide showed a view out of the cockpit window, with the aircraft heading for a canyon with both sides of the canyon mountain tops obscured with clouds!

I have been flying the Rocky Mountains for some 28 years, and I have never once flown canyons or valleys, even before the days of the Malibu — with non-pressurized airplanes. It’s suicide to even think of it, particularly with the proliferation of high-tension power lines now crossing the valleys and canyons in ever greater numbers; was this ever mentioned in the seminar?

Basic bottom lines

If you’re flying over the mountains and the mountain top winds aloft forecast is 20 knots or less, use 15,500 or 16,500 msl as appropriate; if you’re flying in mid-afternoon and mountain top winds are +25 knots, consider the flight levels to avoid unpleasant turbulence.

Please... Stay out of the canyons!

Bill Prymak

P.S. Colorado Springs was the best convention yet!

Continued on Page 15
LOCATED IN THE MIDDLE OF THE BEAUTIFUL CENTRAL CALIFORNIA SAN JOAQUIN VALLEY FOR 23 CONTINUOUS YEARS

SERVICE: Expert Scheduled Service & Maintenance/Repair on the Malibu 310 & Mirage, Continental & Lycoming Engines-replacement/troubleshooting, pressurization service, Spoilers, De-Ice Systems, Prop Balancing, King Avionics/Autopilot Service on site, transportation/shuttle for pilots/owners or Free Fishing Guides w/Boat & Gear & Yosemite National Park Tours for customers remaining overnight, Courtesy AvGas $1.60 per gallon, Free loaner automobiles.

Our Director of Maintenance, Mr. Kevin Mead, I.A. (Formerly with the outstanding Skytech, Inc. of Baltimore, MD) is available as your personal maintenance supervisor.

SALES: Pre-Owned Malibu/Mirage & new Mirage through our California distributor Avex, Inc.


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Dear Editor:

SkyTech has decided to proceed with the development and STC approval of the heated windshield for the 310 Malibu. Targeted STC approval will be August 1995 with pricing estimated at $14,995.00 installed. The outstanding response for the project at Colorado Springs and the deteriorated condition of most existing hot plates confirmed the viability of the project.

Frank A. Stephenson

Somebody once said that tires ain’t pretty. They are actually quite attractive when doing their job of preventing expensive noises as your airplane contacts the runway. In the mystical world where the rubber meets the runway, most of us don’t know what’s in those “sneakers”.

Tires are made of fabric layers called “plies”. These are laid on top of one another at angles and covered with rubber. Most light aircraft tires come in 4, 6, 8, or 10 ply rating. The higher number means more weight can be carried by the tire. Next comes the tread. Usually we see straight lines for a pattern. Some older style tires or those designed for a particular purpose, may have angled ribs or diamond shaped blocks.

The compound of the tread rubber can be harder or softer than standard. Softer tread offers better traction but wears faster. It will “squirm” more when subjected to side loads and can be noisier when turning. Harder tread wears longer, seems more harsh on landing and rollout and is more prone to hydroplane on wet runways. Considering all these factors would seem to make it difficult to choose which type of tire to purchase.

Not to worry! Tires come in all shapes and sizes? Not really. One basic shape and size to match the wheel in use. A tire that has 6.00 x 6 on its sidewall is one designed for a six inch wheel. 5.00 x 5 would then be for a five inch wheel. Larger sizes might be seen as 8.50 x 10 or 12.5 x 18. It is best to stick with the size that the manufacturer installed though an increase in ply number can be helpful in prolonging wear.

Another key item that will keep your tires healthy is air pressure. The folks that made the machine did some testing to be sure that certain performance levels for takeoff and landing could be achieved. If the tire pressures are too low, excess friction will keep you on the runway longer. More heat will also be generated causing premature aging of tire and tube.

Low pressure is also indicated by excess wear on the outside edges of the tread. The possibility of shearing the valve stem also increases with less pressure to hold the tire in place during the shock of a hard landing or one of those rare times when we forget to keep our feet off the brake pedal.

Higher than normal pressure will reduce friction somewhat but causes rapid wear in the tread center. It makes the aircraft unstable in crosswinds and on wet runways. The wise word here is to keep those tires inflated to within a few pounds of what the book says. Tires may not be pretty but they aren’t cheap either!

A strange thing that I have observed many times is that tires that sit still for long periods of time seem to lose air more quickly than those which move about regularly. This must have something to do with the characteristics of the rubber as it breathes. This is another good reason to get that machine moving more often!

Some other wear patterns to look for are cupping on the edges of the tread, feathering on the surfaces between tread bars and cuts or bruises on the tread or sidewalls. Cupping may be caused by worn or loose wheel bearings or a strut that needs to be serviced. The feathering of tread bars can be caused by side slipping in hard turns or a wheel that is out of alignment. Cuts and bruises are usually a result of debris being run over but can also be caused by poor ground handling techniques.

This has been a brief review of those “lowly” items at the bottom of every airplane called tires. I hope it helps to give some insight into care and selection of something that we may not think much about. Happy flying and keep the rubber side down!

Ed. Note: Dale Halter is the Chief Mechanic at Spruce Creek Fly-in in Daytona Beach, Florida. He has fifteen years of experience as an A & P Mechanic and writes for other flying magazines as well.

"WOW!" "FABULOUS!" "MAGNIFICENT!"

Just some of the superlatives heard from all of the 25 M•MOPA folks who flew up to Aspen Sunday morning with Bill Prymak to share with him the annual viewing of the world-famed Aspen Gold. Bill had prepared scenic flight routes for the 13 planes participating, private transportation to the “top of the world" to 12,000 msl, and a barbecue that defies description. Imagine sinking your teeth into a juicy hot dog while your eyes feast upon a 360 degree thousand mile view of Aspen trees exploding in a riot of gold, yellow, orange and red colours. Five star dining could not get any better.

Bill, with the help of Bob & Julie Hunter who prepared the food, gave everybody an unforgettable day of High Country flying and exploring the back mountains of Aspen. “We all ran out of film before we landed in Aspen ... is mountain flying always this easy...and pretty? ... the views of the Aspen mountains at 16,500 feet just blow us away” ... were some of the typical comments. What a place to hold a convention some day!
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One of the pleasant rewards of being M*MOPA president, is the opportunity to meet and occasionally fly with our very interesting members. I first met Bill Prymak after he volunteered to fly one of our speakers to the Austin meeting. I soon learned that Bill was a fan of Amelia Earhart. In fact, he is far more than a fan. Bill organized the “Amelia Earhart Society of Researchers”, and personally publishes their monthly journal out of his home. Bill’s dedication for the society is to ferret out credible research and researchers. This group is non-profit, and in fact, conducts their research at considerable personal expense. Bill titillated my interest, and after reading several books and many of the Society’s Newsletters, I am also hooked on this unbelievable historic aviation mystery.

Last spring I received word via the “99s” (organized in 1929 with Amelia Earhart as the first president) were going to honor Bill with a memorial plaque at the “International Forest of Friendship” at Achinson, Kansas. To be honest, I had never heard of this place. Since I was going to be in Colorado during this time, I took the opportunity to call Bill and ask if I could represent M*MOPA (a chance to fly the bird) at the dedication. I spent a wonderful night at Bill and Gloria’s home listening to Amelia Earhart researcher and editor, Joe Garvis, and Bill, go at it about Amelia Earhart. The next morning Bill and I flew a “loose” formation from Jeffco, Colorado to Achinson, Kansas. The city of Achinson donated about 80 acres of beautiful rolling wooded land to the 99s for an area to honor those who have significantly contributed to aviation. It is in the spirit of Amelia Earhart. Her birthplace and home is in Achinson, and is maintained by the 99s. This land is dedicated for the “International Forest of Friendship” - a stop every aviator would enjoy. The rolling hills are laced with a serpentine of sidewalks which have imbedded every few feet a marble plaque to commemorate an aviator who has significantly contributed to aviation.

Standing by Amelia Earhart’s bronze statue, one looks in the direction of her gaze which is toward the end of the woods where “her” plaque lies amongst other historical aviators. I think she secretly is really looking to the east for Howland Island! Strolling along the walk is a spiritual experience for a pilot. The Wright brothers, Lindbergh, several Astronauts, Doolittle, Pappy Boyington, Hap Arnold, are but a few marble inserts positioned for history and young aviators to venerate.

The 99s are an influential and cautious organization - complimented by many committed and proficient aviatrix. They recognized Bill Prymak’s unselfish years of dedicated credible contribution of Amelia Earhart research, and his marble tablet rests beside many other aviators who have committed their lives to aviation - on a beautiful hillside in Achinson, Kansas.

Congratulations Bill, from M*MOPA. We are proud you are one of our “family”.

Dick Perschau  M*MOPA
FROM M•MOPA HEADQUARTERS

BY: HEATHER BLANCHARD

Well, another Convention and another tremendous success for M•MOPA! Our attendance numbers were record setting, with 136 members, 248 total attendance and 95+ aircraft flying in. We also saw a record number of vendor exhibitors; it looked like a mini-NBAA setting, with 136 members, 248 total attendance and 95+ aircraft flying in. We also saw a record number of vendor exhibitors; it looked like a mini-NBAA

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I think we've topped out at the possible attendance, and every year I'm ever struck to exceed last year! I am ever struck in the Vendor Exhibit Hall. Every year the aircraft you fly. Your enthusiasm and serious respect for the aircraft you fly.

Of the total convention attendance, we had 55 “first timers” in COS. You could recognize our new friends by the blue name tags. I hope you had a chance to say hello and get to know them. And I hope our new friends had the pleasure of making your acquaintance.

Since our last issue of the magazine, these are the new members:

Rod Keiser
Aurora, CO

Rod was able to join us in COS. His backyard. While not currently an owner, he is very much interested in the PA-46. He’s president of his computer software company, Global Business Systems, Inc.

Tom & Kathy Evernham
N61FL
Carmel, IN

Tom is an engineer involved in research and development at Delco Electronics Corp. He has moved up to 1989 Mirage from a Mooney 252. Tom was referred to us by Clark Aviation. Thanks, guys! And we did shake his hand in COS. Nice folks.

Robert Pursell
Fresno, CA

Robert is president and owner of Western Piper Sales. His organization is involved in aircraft sales and service. We met Robert at the convention and thank him for his donations to the Auction. His new associate, Kevin Mead, was there as well and we enjoyed seeing him again.

William & Barbara Harra
N107PM
New Castle, DE

William comes to us via SkyTech. They have generously paid his first year’s dues. William’s company is Harra Decal Co., involving screen process and flexographic printing. He’s flying a 1986 Malibu with spoilers.

Dudley Johnson
N4151H
Liverpool, NY

Dudley is with Young & Franklin, Inc. He and his copilot, Craig Froelich, own a 1988 Mirage.

Patrick & Nancy Henry
Conway, SC

Patrick is prospective owner and joined M•MOPA to learn more about the aircraft. A wise consumer! Let us know, Patrick, when you find the aircraft of your dreams! Patrick is an importer. We’d like to know more about that.

Dave Mills
N550DM
Moline, IL

Dave CEO of Mills Chevrolet and his copilot, Gale Throne, are driving a 1994 Mirage with the Argus 5000 installed.

James Ghilzon
Windsor, Ontario

James is a dentist and another Canadian member! We’re expanding our international rolls.

Bill Kitchen
N321SF
Longmont, CO

Bill is CEO of Sky Fun 1, Inc. here in Colorado. He was able to join us in COS. Bill has offered to write some articles for the magazine about his trips in the Mirage. We look forward to hearing from him. Bill owns a 1994 Mirage.

William and Catherine Page
N424J
Bermuda Dunes, CA

William is with Desert Urologic Medical Group and is an FAA AME. As a medical examiner, perhaps he could contribute to our “Med+Facts” column in the magazine. William is a CFII and also has a helicopter rating. He’s flying a 1984 Malibu. He was referred to us by Ron Cox at ATM, Inc. Thanks Ron!

Daniel Lee & Suzie Kelley
N43367
Las Vegas, NV

Daniel comes to us by way of Attitudes International. He is CEO of Mirage Resorts, Inc. involved in casinos. Sounds like a potential convention site! Daniel owns a 1984 Malibu.

Paul Daniels
N92156
Canfield, OH

Continued on the Next Page
Don & Mary Jo Grondin  
Simi Valley, CA

Don is with Pik*West Insurance Agency. You've seen his ad in the magazine. He joined us for the first time at the convention, and we're glad he did!

Bill Wosick  
N92ED  
Independence, KS

Bill flies a 1992 Mirage, “nicely equipped with nearly all options, except EFIS.” He's a diagnostic radiologist. Many thanks to Bob Scott of Attitudes for this new member.

Gerald & Gail Jospa  
N131RL  
Copiague, NY

Gerald is the new owner of a 1989 Mirage. He is CEO of a garment manufacturer (The Gap). He & Gail were new members at the convention and I thoroughly enjoyed meeting them. Gail contributed vital feedback about the non-pilot course and Gerald donated to the Auction. Great new members! Thanks to Bob Scott and Kevin Mead for this new member.

Joe & Linda Baum  
Ithaca, NY

Joe, with another new member, are looking for the aircraft of their dreams. Joe is with Automated Environments, Inc., a company that manufactures and markets computer control systems for agriculture.

Alfred & Pamela Campbell  
Ithaca, NY

“Mo” is the other new member, looking for an aircraft with Joe Baum. He is co-owner of Automated Environments, with Joe Baum, and was able to break away from his busy schedule to attend the convention. These two are eager to get their new aircraft and I hope to tell you about it when they do.

Continued on Page 24
Stuart & Chris Woods  
N123TF  
Santa Fe, NM

A new member from our favorite part of the world! Stuart was a Bonanza owner when he joined, but is now the new owner of a 1994 Mirage, and a delightful fellow. Stuart is a writer; we hope he will contribute to the magazine.

Hal Lynch  
N9083U  
Jacksonville, FL

Hal is with Lynch Management and is an auto dealer. He owns a 1986 Malibu that is flown by a professional pilot. He comes to us by the good graces of SkyTech, Inc.

Kelly Hawkins & Stacy Sweaton  
N9246D  
Las Vegas, NV

QUEEN OF THE FLEET - MIRAGE! Kelly is the proud new owner of a 1994 Mirage and obviously it is stunning! He and guest, Stacy were able to attend the convention. Kelly is a physical therapist and president of KGH & Assoc.

Kevin Mahaney  
N8668  
Bangor, ME

We have our second member from Maine! Kevin’s aircraft is registered to Imperial Aircraft Charity.

John & Linda Moss  
N526JM  
Wayland, MA

John is President and CEO of a software/electronics company. He’s flying a new 1994 Mirage.

Floyd & Melanie Asher  
Salt Lake City, UT

Floyd is General Manager of Intermountain Piper, Inc., a Piper Distributor and Service Center.

Apparent many of our members have their aircraft maintained at IPI, and we have them to thank for this new member. (FYI, Floyd and I go way back to the Piper/Santa Maria days and I really enjoyed seeing him again.)

Tomas Garnica  
N9121N  
Dayton, OH

Tomas is a physician and owns a 1987 Malibu. His total time is 2680 hours, with additional ratings of commercial and multi-engine.

Dick & Joyce McCoy  
N4421R  
Pittsburgh, PA

Dick is the owner of a plastic brokerage and manufacturing company called Polymer Industries. He owns a 1985 Malibu. On the application, Dick responded to our questions about ‘notable modifications’ with, "Capehart - blue printed engine." I think I’d like to know more about this. He was referred to us by our friends at Piper.

Anne & Randall Sandall  
N17NG  
Colorado Springs, CO

Anne joined M•MOPA at the convention. She is a charter pilot with Andall Corp. flying a 1987 Malibu. She is a very gracious lady and we’re glad to have another woman PIC!

Larry & Karen Pribyle  
N9126V  
Maple Lake, MN

Larry & Karen were able to join us just before the convention. I hope you had a chance to meet them. Larry is owner of a firm involved in utility contract. We have Tim Ashenfelter of ASI to thank for this new member and owner of a 1987 Malibu.

Richard Ossoff & Heather  
Fenton  
N9122N  
Atlanta, GA

Another new member who joined us at the convention! Richard is president of Straphord Publications and owns a 1987 Malibu. Heather (great name!) was able to attend the Copilot course as well. I hope she found it useful. I know I enjoyed meeting them.

Lynn Newcomer  
N554CM  
Salina, KS

Lynn is a chemist with an environmental mobile laboratory, Plains Environmental Services. He owns a 1989 Mirage.

Murdoch & Debi Campbell  
N98DB  
Bloomfield, MI

Murdoch owns a 1986 Malibu and comes to us by way of Mary Bryant at Attitudes International. He owns a 1986 Malibu and is owner/president of a company involved in industrial construction products. Murdoch has graciously volunteered for a variety of committees and we do appreciate it. I’m sure we can put him to work! And again, I had the pleasure of meeting them both in COS.

Jeff Gover  
Vero Beach, FL

To most of you, this is a familiar name. Jeff was a product support specialist with Piper for a long time and has been the primary PA-46 A & P with Sun Aviation for a good while. He has ever been a good friend of PA-46 drivers and we’re pleased he could join us at the convention and join M•MOPA!

Charles & Linda Leemon  
N193PM  
Miami, FL

Charles is involved in the hotel industry and owns a 1993 Mirage. Charles wisely ordered our video productions as well.

James & Amy Warfield  
N49PK  
Frederick, MD

Continued in the Third Column on Page 34
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Service Clinic - Continued from Page 11

exhaust system and related components. Most of the discrepancies noted related to the slip joints and improperly mounted heat shields. We also noted a few wastegates that were leaking oil and several springs that were flat spotted in one case actually broken. Although this sounds rather gloomy, when we compare this year’s results with other year’s, we find a significant improvement. It appears that recent Service Bulletins and exhaust improvements have helped reduce the number of cracked components and made this a more reliable system. However, due to the critical nature of this system, it will still require constant attention to insure optimal performance.

Induction System

Two conventions ago in Santa Fe, we were deluged with broken alternate air doors and damaged turbos. Last year, we saw a very noticeable improvement and this year the trend continued. However, we still noted 39 various discrepancies related to this system. Most of the problems are related to rigging and alternate air door hardware. Although most of the problems were comparatively minor, left uncorrected they will lead to performance and turbo charger problems. We also noted that most of the Malibus had yet to comply with TCM S.B. 94-3, which involves replacement of some induction system boots and clamps. Additionally, we discovered several aircraft that had deteriorated air filter elements. In general, this system continues to improve!

Landing Gear

Since the landing gear utilizes a large number of components, we always expect a large number of discrepancies. This year, we noted 87 squawks with the landing gear and related systems. The largest block of items related to brake wear (such as linings) and disc wear. We also noted quite a few aircraft with actuator hoses that were seeping hydraulic fluid. These hoses have a life limit and fall under the standard replacement schedule of 3 years or 1000 hours. There were several nose gear assemblies that were in need of steering adjustments and nose trunions that could use a further evaluation for cracking. There were numerous squawks relating to worn bushings, hardware, and strut assemblies that appear to be leaking. We also noted three aircraft that had not fully complied with S.B. 964, and quite a few Malibus that do not have the upgraded nose trunion. In short, there still needs to be a greater emphasis placed on the landing gear, especially as the fleet ages.

Wings

Sixty squawks relating to the wing assembly were noted. Candidly stated, this year’s results provided a mixed bag of discrepancies. Some of the notable ones include: deteriorated stall vane elements, working rivets on the fairings, light corrosion forming behind the device boots, and several aircraft that had not complied with the various rib S.B.s. This will lead to time consuming repairs at some point and are highly recommended. Most of the items that we discovered should be handled during routine maintenance check-ups.

Empennage

Thirty four squawks relating to the empennage of the aircraft were listed. The largest problem still seems to be corrosion on the steel tail brackets, pitch capstan, and trim tab assembly. Since most of the aircraft had complied with S.B. 962, the problems were minimal compared to other years. We noted several aircraft in which the elevator and bridle cables were loose and one ELT with an expired due date. We also found several pitch servo/capstans that were in need of cleaning and maintenance but again, compared to previous inspections, this area has improved greatly.

Fuselage/Cabin Area

The fuselage and cabin area turned up 53 squawks during this year’s inspection. Typical squawks included: inoperative exterior lighting, inoperative interior lighting, defective recline actuators, inoperative entrance light timers, and various interior deficiencies. Although most of the items we noted were somewhat cosmetic in nature, there were a few items that warrant some attention. There were several entrance door seals that were in need of repair or replacement and several mixture cables that were binding. Additionally, we discovered one window that had been drilled for a storm window latch; this is definitely NOT an approved repair, and not a very good idea in any pressurized airplane.

Baffles

We are pleased to report that we only discovered 22 problems with the baffle assemblies. We had a mixture of cracked baffles and deteriorated baffle seal material that made up a majority of the squawks. We also noted several baffles that were secured or mounted improperly. Overall, this area has dramatically improved over recent years!

Cowling

We noted 21 squawks with the cowling assemblies. Several cowlings had cracks in various locations and several nose bowls had some light cracking. We also noted some cowling supports that were cracked. This area seems to have remained fairly constant over the past few years with respect to the number of problems and their severity.

Engine Mount

We are very pleased to report that the engine mount area has improved dramatically this year. We only noted 3 squawks in this area, which primarily related to mounts that have not had the gusset installed. It appears that with S.B. 960 and Service Letter 1001 installed the condition of the engine mounts continues to improve!

Ignition System

The ignition system is another area that seems to be showing signs of improvement. Most of the aircraft we
inspected have incorporated the new generation moisture filters. Although we did find several that were not positioned properly and several aircraft utilizing the old style filters, in general this year's results are very promising. We only noted two aircraft with mags that were positioned improperly (this usually indicates internal wear). This combined with the records noted in the log books, leads us to believe that most aircraft are undergoing regular magneto maintenance.

**Fuel System**

Other than several sump tanks that are leaking, we noted very few discrepancies with the fuel systems. There were several primer solenoids that were loose and seeping, and two aircraft with discrepancies relating to the mixture/throttle hardware. The largest area of concern at this point is the fuel hoses. During this year's inspection, we noted numerous aircraft with hoses that are eight to ten years old. Since Piper recommends replacement at three years or 1000 hours, these hoses should be very carefully inspected and evaluated.

**Oil System**

We noted a large number of oil leaks that ranged from slight to quite extensive. In short, unidentified oil leaks should be addressed at the earliest possible convenience. As with the fuel system, we noted hoses that are past their life limit. Again, these assemblies should be carefully evaluated and inspected.

**Air Conditioning**

Fourteen areas of concern were noted. These squawks related mostly to air conditioning belt tension and wear. However, we did discover one compressor that was seeping oil.

**Service Letters/Service Bulletins**

We performed a complete check of all applicable Service Bulletins, Service Letters, and Airworthiness Directives. Of the 26 aircraft inspected, we found 16 had excellent compliance, 8 had good compliance, and 2 had very little record of compliance. In contrast to what we have seen over the previous three conventions, the compliance levels are beginning to improve. Not only is this a very encouraging trend, it also is an excellent indicator of a group of owners who are dedicated to keeping their aircraft in the best condition possible.

In conclusion, we would again like to thank M-MOPA and all the owners that were more than gracious to us during this year's convention.

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If you fly an older aircraft you might experience things like static on the communications radios when in precipitation. This can be caused by an improperly bonded surface on the aircraft. In other words, if the bonding straps break on a control surface or an inspection panel is not properly grounded to the airframe, it can generate a signal large enough to block out the communications radios. This phenomena is known as P-static. It can also cause problems with communications antennas that have had their anti-static coating eroded away or have been painted over. It’s important that the antennas not be painted over. If painted over, they might work fine in good weather and not work at all in precipitation.

Some other common problems you might see are intermittent displays and intermittent frequency selectors. The displays are made up of two pieces of glass bonded together, filled with gas. Over time, the gas will leak out and the display will become intermittent. One quick check for this is to cover the photo sensor near the display. If the display goes out instead of dimming, the gas pressure is low and the display should be replaced.

An intermittent frequency selector is usually caused by worn out contacts on the selector switch. Sometimes the wear is so bad that the whole display/switch board will need to be replaced. These problems are some of the more common problems in aircraft and radios that have a few years and a few hours on them.

**New Coms**

The latest developments in communications radios are the GPS controlled comms. Northstar has come out with what they call the Smart Com. This remote mounted comm is channeled by their Loran’s and GPS’s. What it does is give you instant access to all local VHF frequencies. It will automatically tune to ATIS, Tower, and Ground of the closest airports and approach by sector and time.

Garmin is taking a little different approach. They have come out with a modification to the KX-155/165 nav/com to allow the GPS-155 to channel the KX-155/165. This will give you the same abilities as Northstar’s Smart Com.

GPS is moving so fast, that the day when GPS only navigation is here is not far off.

**Autopilot problems revealed in COS Avionics Inspections**

For the past two M/MOPA conventions the Service Clinic has included a cursory inspection of the major avionics systems in the Malibu and Mirage. Overall, it appears that Malibu owners equip and maintain their aircraft very well. As always, the Service Clinic is an excellent opportunity to inspect a large cross section of the fleet (for an exact breakdown, see Dave Conover’s Service Clinic Review article).

This year we discovered a total of 34 discrepancies in the avionics systems, including weak navigation receivers, sluggish or inoperative flag assemblies, and autopilots that would not auto-trim. This is especially disturbing since the autopilot cannot properly fly the aircraft without having the autotrim in normal working order.

Three major issues stood out during the inspections. Most aircraft have not complied with King Installation Bulletin 334, which places a very important placard next to the autopilot computer. The placard reminds the pilot to perform the autopilot pre-flight tests before flight, and the tests have been expanded in the past three years in response to AD 91-07-08. Many items previously labeled “Caution” in the Flight Manual Supplement are now labeled “Warning”, and are worthy of the expanded pre-flight test.

The second major issue, at its best, causes an uncomfortable ride, and at worst causes a loss of control of the aircraft. Loose bridle cables on the pitch and yaw servos are the culprit, and they were discovered in a majority of the aircraft inspected. When the cables are loose, the autopilot is always behind the aircraft. The servo has to take up the slack in the cable before it can move the control surface. While the servo is taking up the slack, the aircraft is flying through its reference, i.e., altitude, heading, or course. Bendix/King recommends an annual inspection of the autopilot servos, which includes resetting the cable tension.

Finally, again this year we discovered two aircraft that had run out of the required pitot-static and transponder certification required for IFR flight. This condition is inexcusable, as it creates an immediate safety hazard involving multiple systems in the aircraft.

One question that was asked during the convention involved a communications radio that broke squelch intermittently. When we narrowed down the scenario, it came to light that the condition generally occurred in clouds or precipitation. The problem is most likely caused by a control surface that is not properly bonded to the airframe. All the control surfaces have bonding straps that electrically connect them to the airframe. If these straps break, the control surface will radiate radio frequency energy while in precipitation. In the worst cases, it will block out both communications and navigation radios when you need them most.

Once again, the Service Clinic proved to be an educational experience for everyone involved. Many thanks to the owners who participated.

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*AVIONICS CORNER*

*PETE WAGNER*

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*Malibu-Mirage Magazine*
Mirage Alert

Alternator Failures

At the Colorado Springs Convention I spotted many Mirage aircraft with cooling fans installed on the #1 (left) alternator. If installed the fan can cause an overheat and failure of the alternator. Only the #2 (right) alternator receives a cooling fan due to its installation forward of the baffle. I suggest that all Mirage owners have their aircraft inspected for the presence of a cooling fan, and if installed please have it removed as soon as possible. If you have any questions please feel free to call me at (209) 252-2926

NTSB Safety Recommendation A-94-82 Turbocharger failure

From January 1, 1988, to May 4, 1993, there were 88 accidents/incidents involving aircraft engine turbochargers. These occurrences resulted in 6 fatalities and 35 injuries. Many of these occurrences, in both single and twin-engine airplanes, involved loss of engine power, in-flight fire, and/or smoke in the cockpit. Moreover, from January 1, 1986, to May 4, 1993, the FAA received 580 Service Difficulty Reports (SDR’s) regarding aircraft turbocharger systems.

These reports contain detailed system malfunctions that, in many cases, were attributed to inadequate or improper installation, inspection, maintenance, service, or overhaul. The NTSB noted that in a significant number of accidents, improper remedial action by the pilot following failure or malfunction of the turbocharger may have been a contributing factor.

It was recommended that all aircraft equipped with turbochargers be inspected for proper installation in accordance with the manufacturer’s maintenance instructions. It was further recommended that all turbochargers be periodically inspected and replaced as specified in the appropriate manufacturer’s maintenance and service instructions.

Spar corroded

During annual inspection found corrosion present on interior panel attachment fittings. Removed complete interior panels and found moderate corrosion on stringers and one area of severe corrosion (2 inches by 2 inches) of main spar. Emergency exit had been leaking for some time and a caustic substance may have spilled on spar cover. Aircraft has been idle for one and one-half years (6 hours since last annual). Submitter suggests aircraft of this type should be kept inside or have leaks repaired promptly.

Lift Detector vane burned

Heating element - coating or surface over vane burned, split, frayed, separated from vane. Suggest power to this element be reduced. Unit very prone to overheating and destroying heat element. Unit then must be sent back to Safe Flight for overhaul.

Transition Tee cracked

During inspection of engine, found transition tee cracked. Pressurized exhaust system and found cross-over pipe leaking. Removed tee and cross-over. Found cross-over pipe severely bulged and slip joint frozen. Tee probably cracked from preload on exhaust due to frozen slip joints. Cross-over damage probably from heat and frozen slip joints preventing flexing of system.

Submitter stated it is highly recommended to thoroughly inspect this system every 100 hours including pressurization of exhaust to find leaks. Cross-over heat shield needs to be removed to properly inspect pipe. All slip joints should be lubed every oil change.

Pipe slipped

Exhaust crossover tube had slipped out between PN 4CB19850 and PN 4CB19974. Exhaust blowby caused some wiring to be burned. This is a serious problem. Investigation of other Malibus Mirages showed evidence of possibly the same problem occurring. There has to be at least 1.50 inches engagement into each slip joint. These had only .75 inch.
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Our 1995 M&MOPA Annual Meeting will be at Hilton Head Island October 11-15, 1995. Bill Alberts and Larry Lee will be arranging the facilities and organizing the academics respectively. Inform them of any ideas of interest for this meeting. Since these activities will be handled by Bill and Larry, it will give me some time for a few projects I have desired to do. I would like to study the induction icing problem - perhaps film the back side of the filter in flight. Maybe a filtered alternate air system can be retrofitted. I would like to measure front luggage compartment temperatures at flight levels. I think there are many little ideas that may make this great bird better. Any ideas from out there??

Upon leaving COS for Aspen, I was delighted to hear such professional radio discipline from our Malibu drivers. I know we have many military and professional pilots in the fleet, but it was the best I have heard in a GA group. This was pleasantly confirmed when Bill and I took the active to leave Aspen. Bill thanked the tower guys for handling our sudden gaggle so well.

Their spontaneous comment was: “yeah, you’re welcome. We’ve all been commenting to each other around here that as an identified group, you folks really fly the Malibu professionally and proficiently. Nice working with you, come back anytime”. Felt good! We can only stand as tall as those we associate or fly with. I will always be proud to say I’m a M&MOPA Malibu driver. Keep up the great and safe flying.

Cheers.

James owns a 1989 Mirage and is an automobile dealer. We hope to meet them at the Hilton Head Convention.

Stephen Hokanson
N46SB
Indianapolis, IN

Stephen is president and CEO of a company involved in corporate and investment real estate. He owns a 1986 Malibu. Many thanks to the folks at Clark Aviation for this new member.

John & Mary Beth Dixon
N66SF
Kentfield, CA

John also comes to us courtesy of Clark Aviation. He owns a 1986 Malibu and is involved in real estate investments and property management. John tells us that he worked on the design of the GPS navigation system in the 1970’s! I’m sure he would have enjoyed Ross Bowie’s program at the convention. A word or two about the development of GPS would be interesting reading in the magazine.

So many new friends! Many we had the pleasure of meeting and many we look forward to meeting next year. I want to personally thank those of you who took the time to compliment me personally on the convention organization. “Atta-boy’s” are always welcome as well as the great suggestions for next year.

Speaking of next year, we passed out a Member Convention Survey in COS. This survey is vital to our planning for the annual event to make sure we give you what you want. We’re pleased with the return of the surveys, but if you didn’t have the chance to fill it out, call me and I will forward it on to you. Your remarks are important!

And again, congratulations to all of us for a most terrific convention. See you in Hilton Head in 1995!

In the meantime, FLY SAFE!

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