

Technically Speaking

Good Engine Operating Habits



by Mahlon Russell

There are several good habits that we, as pilots, can develop during pre-flight and engine operation to enhance our safety, as well as elongate our engine's life. The following items are not cumbersome to do and really take very little time or effort to perform.

Logging Fuel And Oil Consumption

By making a notation every time oil is added to the engine or engines we will develop a database that can be useful to maintenance personnel, as well as ourselves, to determine general engine health. By being able to average our oil consumption over many hours of operation, and knowing what that average is, makes it easy for us to see changes that might be important.

If you know that over the last 100 hours of operation you used an average of one quart of oil every seven hours and you find that over the last 10 hours of operation you used three quarts of oil, it is easy to see a problem developing and when it started. Without logging the oil consumption you most likely wouldn't know you had a problem until the engines usage became extreme and there was a possible safety issue.

Likewise, logging and averaging fuel usage may alert us to changes that could cause potential engine problems. Changes in our average fuel consumption, at the same power settings, can alert us to discrepancies in our fuel flow indicating equipment, exhaust gas/turbine inlet indicating equipment or our fuel metering systems. Catching

these problems early can save thousands in cylinder repairs.

Keep RPM To A Minimum At Start Up

After engine start-up we should run the engine at the slowest RPM that the engine will continue to run at. If it will stay running at 700 RPM then that is the RPM we should be running at not 1,400 RPM. Allowing the engine to run at a high RPM right after start without letting it warm up can cause premature wear to many internal engine surfaces that are splash lubricated. Some of these splash lubricated components, most notably the camshaft and tappets, are especially susceptible to damage right after start with cold oil and high RPM operation. Keeping the RPM to a minimum will limit the amount of interaction of these components before enough oil has splashed around inside the engine to provide sufficient splash lubrication.

Keep Propeller Cycling To A Minimum

It is absolutely necessary to cycle a constant speed propeller before flight. Not only does this operation exchange cold thick oil in the propeller with warm thinned oil from the engine, it also ensures that the propeller and propeller governor are functioning properly. The amount and frequency of this operation is what is at issue.

When we purposely deep cycle our propellers, that is cycle them down more than 400 RPM, we cause more vibration and chatter on the engines counterweight system than we do if we only cycle the prop down only 300 RPM. This increased

amount of vibration and chatter can cause increased wear on the engine's counterweight bushings and pins. The fit of these pins and bushings is what allows the counterweight system to absorb a very specific frequency of harmonic vibrations within the engine. If the fit between these components is compromised we are said to have "detuned" the counterweight system and thus we have severely limited the counterweight system's ability to absorb its intended frequency of vibrations.

These vibrations, when not absorbed, can cause many vibration-related maintenance problems. Anything from catastrophic engine or propeller failure to minor cracking of engine baffles and cowlings is a possible result of detuned counterweights. By keeping the frequency and RPM that we cycle the propeller to a minimum, we can maintain the counterweight systems ability to absorb its intended frequency of vibrations and limit any problems related to detrimental harmonic engine vibrations while still testing the propeller and propeller governor properly.

Proper Engine Warm-Up

Before initializing a full-power application, we should ensure that the engine is properly warmed up. We should have at least 220 degrees Fahrenheit CHT and an oil temp of 110 degrees Fahrenheit on a normally aspirated engine and 130 degrees Fahrenheit on turbocharged engines.

When an engine is running, it relies on the temperature of certain components to maintain proper

clearances between them. The hotter a particular component becomes, the more it expands and thus the larger it gets.

If we operate an engine without attaining proper even temperatures, we have some components that aren't big enough and some that are too big. When this happens we can experience excessive wear on the internal components involved. Assuring proper minimum temperatures, will assure proper tolerances,

keeping wear to a minimum.

In addition to the wear factors, turbocharged engines rely on warm engine oil to properly control the turbo system. Applying full power to an automatic control turbocharger system with improperly warmed up oil can cause the system to react sluggishly to control impulses being supplied by the turbo controllers. This can easily allow an over-boost condition to exist. Over-boosting of an engine not only can

cause excessive premature wear but if severe enough it could cause complete engine failure. Properly warmed up oil will also help ensure that all splash lubricated internal components are receiving the proper amount of lubrication.

Proper Engine Cool Down Before Shut Down

Proper shut-down procedures are important to all engines but are especially important to turbocharged engines. We should allow a cool-down run at 1000 RPM for at least five minutes on a normally aspirated engine and 10 minutes on a turbocharged engine. These cooldown runs allow internal components to cool and shrink evenly at an acceptable rate eliminating any hot spot within the engine that may have developed during let down and landing. On turbocharged engines these runs allow the turbo itself to cool dramatically from operating temperatures. Shutting the engine down with cylinder heads and turbocharger at too high an operating temperature will cause the oil that is left on internal parts of these components to be cooked and turned into carbon. Carbon build up in cylinder components can cause stuck valves and rings causing high oil consumption. Carbon build up inside of a turbocharger lubrication section will cause seal failure, high oil consumption and eventual turbocharger failure.

These simple procedures can provide a multitude of benefits to us and our engines, if they are followed regularly. Of course to gain the benefits we must modify our procedures where necessary and use them. In doing so we will be operating our aircraft in a safer, more economical and knowledgeable way.

Mahlon is a graduate of Parks College of Aeronautical Technology with 29 years of experience in the repair and major overhaul of general aviation piston engines. He has been employed at Mattituck Airbase for 26 years, with 10 years as service manager and 12 years as production manager. 

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Technically Speaking

Turbo 250: An Economical Plane

by Tom Stown - (Originally published in the Comanche Flyer June 1975. Submitted by Karl Hipp)

Let me lay a claim on you. A claim that may boggle your mind. And being that I can prove this claim, 250 Comanche owners with fuel injection (especially those with turbochargers) will be delighted.

I say that 250/260 Comanches with fuel injection (if flown properly) will get 19 to 20 miles per gallon at 170 to 180 mph TAS at 9,500 to 12,500 feet This breaks down to a fuel flow of 9 gph.

Yes, you heard me. NINE gallons per hour at 170 to 180 mph! The

lower speed is at maximum gross weight. I know it can be done because I do it all the time in my 1961 250 turbo-injected Comanche.

Actually there is nothing magical about me. But one does have to meet certain requirements with regard to engine operation:

- Run at lower RPMs in the range of 2100 to 2200.
- Maintain a manifold pressure in the 20 to 23 in. hg. range. This is where the turbo has the advantage over the non-turbo.
- Run at 65 percent power or less

to safeguard the engine when leaning to peak.

- Fuel injection is a must for smooth, even leaning.
- Invest in a six-probe EGT (analyzer) to aid leaning to peak on the leanest cylinder.
- An accurate fuel flow meter will help visualize the procedure.

I feel that with the proper technique, the six-cylinder IO-540 is more efficient than the four-cylinder O-360 because the IO-540 will run smoother at the low RPMs. The Mooney and Comanche 180 can

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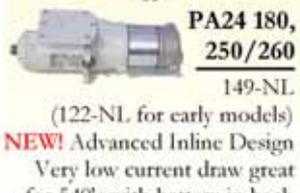
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get very rough and, in addition, the Mooney is restricted below 2350 RPM.

To put all this in a nutshell, the Comanche 250/260 with fuel injection has an eight-hour cruising range with approximately 10 gallons in reserve. I might point out that several important principles are responsible for lowering my PA-24-250 fuel burn to 9 gph at 175 mph from 13 gph at 185 mph. For a 6 percent loss in speed (10 mph) I have gained 37 percent in economy.

From 14.23 miles per gallon, I am now getting an incredible 19.44 miles per gallon. This can also be translated into greatly increased range. From 1,100 statute miles to 1,400 statute miles with 10 gallons reserve including run-up and taxi, climb, etc.

The key to economy is efficiency. And peak efficiency is found at low RPMs (2100 to 2200) and lean-to-peak mixture settings using 65 percent or less power. Fuel injection is a must for smooth, even running

at lean and low power settings. At low RPMs, the propellers efficiency greatly increases due to lower tip speed/drag and due to a bigger bite, thus giving more effective thrust per horsepower applied.

As an example, let me cite an actual cross-country flight. In April, my wife and I flew our 7508P non-stop from Lake Havasu, Ariz., to Shelby County Alabama (30 miles SE of Birmingham). A distance of 1,725 statute miles on 77.2 gallons of fuel in 7 hours and 40 minutes.

Our route of flight was Havasu-El Paso-Dallas-Jackson-Meridian-Birmingham-Shelby Co. We filed IFR and had to climb to 17,000 feet to clear some bad weather over the Rockies. We stayed at 17,000 most of the way and had an average 50 mph tailwind. This contributed to our average groundspeed of 225 mph on only 9 gph. At times our tailwind was up to 90 mph and gave us a groundspeed of 270 mph as verified by our KN-65 DME. If I had pushed the power to 75 percent our

groundspeed would have been in excess of 300 mph. The flight was beautiful on top – clear and smooth. Our only concern was whether our bladders would hold out. We ate and drank lightly and nature was kind and we had no complications. Even our eight-hour oxygen supply was comfortable.

I might add that we were at maximum gross when we departed and that our overall fuel burn – including run-up, taxi and climb – was 9.86 GPH. We landed with 15 gallons remaining. Our average miles-per-gallon was 22.34 – not bad for 225 mph.

I hope you find these figures prove the Comanche one of the most efficient birds flying today and deserving of its class title of “World long distance record holder.” I hope that Mr. Knud Winkel will reconsider his opinion of the Mooney and agree that the most economical high-performance plane is not the “over-rated” Mooney, but the venerable “Classic” Comanche 250!

Mr. Knud Winkel Responds:

With low manifold pressure and low rpms and a consumption of 9 gph or less, I doubt Tom's engine can be run above the recommended minimum cylinder head temperature. So Tom may well be trading gasoline economy for short engine life.

Avco Lycoming Responds:

We do not object to the procedure outlined by Mr. Stown. As long as the operator does not exceed 75 percent cruise power for our direct drive engines, we approve operation at peak EGT.

As far as reduced-power cruise, we recommend that cylinder head temperature not be lower during flight than 150 degrees F. Patrol planes (fish and pipeline) fly at reduced power and suffer no problems.

If you use care with you turbocharger application, you should have no difficulty achieving 2,000 hours overhaul life on the engine.

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CFF Corner

Comanche Certified Flight Instructor Training Program Sponsored by the Comanche Flyer Foundation

The Comanche Flyer Foundation is the sponsor for the Comanche CFI Training program. In this program, an existing and interested CFI will participate in a two-day ground school and 2.5 hours of in flight training in a Single or Twin Comanche. The training program instructor is our own Larry Larkin, a Comanche pilot and instructor with over 3,400 hours of Twin and Single Comanche flight training time and over 7,000 TT.

The next CFF Sponsored CFI training session is planned to start on July 22 in Tucson Ariz. Thursday and Friday will be the ground school portion followed by flight training on Saturday and Sunday.

We are looking for qualified CFI's to take part in this years training program. To qualify for the program, the CFI must have 1,000 TT, 200 Make and Model, 50 hours of training given in a Twin Comanche, (if providing training in a Twin) and 25 hours of training given in a Single Comanche. The flight training is done in a Single or Twin Comanche provided by the participating CFI.

The cost for the training program is free to the CFI. The FREE portion is provided by the CFF and consists of the instructor, Larry Larkin, books and meeting room. The CFI expense for the training session are your own expenses, travel, room and board, transportation to and from the hotel

etc. A letter from your insurance company is required that lists the CFF, ICS and Larry Larkin as Additional Insured for the duration of the flight training program. The order in which the CFI takes the in flight training is made by the order in which we receive the letter from the insurance company. The minimum class size is six.

If you are a CFI interested in participating in the program or if you know of a CFI that you would like to take the training, please contact Larry Rackley at blackley@sbcglobal as soon as possible to reserve your position in the class. All CFI's participating in the class must be a member of ICS at the time the class starts. ✈️

Larry Larkin/CFF Safety Seminar Scheduled for May

The North Central Tribe is hosting a CFF-sponsored Larry Larkin Safety Seminar at Port Clinton, Ohio (PCW). We will be meeting at the airport with class starting at 0900 EDT on Saturday, May 22.

Arrangements will be made for lunch to be delivered to the airport. A group dinner is planned for Saturday evening for those who want to stay overnight in this resort area. Rental cars are available at the airport through Rent-A-Car - (419) 732-0410

The fee to the CFF is \$30 per

person and we need commitments from at least 20 people. The classroom seminar will last all day.

Larry will be available for flying with those that wish on Sunday, May 23. The fee for flying is \$100 for a two-hour flight, which will qualify the pilot for a BFR, assuming the requirements are met. He will also be available on Monday if demand exists. For those interested in flying with Larry, it will be necessary to provide insurance information to Larry.

Rooms for Friday night, May 21, and Saturday night, May 22, may

be made at the Sleep Inn at the rate of \$63 per night. Call them at (419) 732-7707 for your reservations. There may also be a small tribe fee to cover other expenses.

Please contact Warren Cermak at (419) 798-5809 or wcermak@comp-res.com for questions and/or to let him know that you are planning on attending this special event. Also let him know if you would like to fly with Larry.



From the Tribe Chiefs

North Central Tribe

No Host Lunch Fly-Ins

Greetings from your Tribe Chief Bernie Mazurek, Assistant Tribe Chief Keith Flowers and Treasurer/Secretary Dorothy Meadows.

"No Host" luncheon fly-ins at airports with a restaurant on the airfield are scheduled through July. Refer to the table for details. Plan to arrive at 11:30 a.m. LOCAL time (weather permitting) and enjoy a leisurely lunch with other Comanche friends on a regular basis.

If you know of other airports that have restaurants on the airfield, please e-mail bmazurek@aol.com and they will be added to the schedule. The plan is to meet for lunch "on your own" every two weeks at different airport restaurants.

Our thanks to Pam Schield for sending in the restaurant recommendations for May and June.

April 16-18

Inn at Price Tower Bartlesville, Okla. (BVO)

The Mid States Tribe would like to invite everyone to our second fly-in of the year on April 16-18. We will be traveling to the rolling hills of Bartlesville, Okla., also known as "Green Country." This unique area offers us the only opportunity in the world to stay in a building designed and built by Frank Lloyd Wright.

Inn at Price Tower, a fully realized skyscraper, is considered one of the architect's greatest works. Its 21 state-of-the-art, high-design guest rooms and suites are lavishly appointed in the style of a luxury hotel – with a unique twist:

Guests sleep overnight in a living, breathing museum. We have nine bed-and-breakfast rooms reserved

From the Tribe Chiefs

Date	Tribe	Event/Location	Info Source/Host
April 3	NC	No-Host Lunch Fly-in, Cleveland, Ohio	Hornblowers at west end of Terminal Bldg
April 2-5	Europe	Gloucester, UK	E-mail: flyin@jimbalmr.plus.com Call: +44 1285 650094
April 15-17	SE	Treasure Cay, Bahamas	Ken Rivard (321) 453-6700 E-mail: silkie1@bellsouth.net
April 16-18	MS	Bartlesville, Okla. (BVO)	Denise & Mark Pfeifer Home: 507-532-0439 Cell: 507-829-5889 E-Mail: dpfeifer@charter.net
April 17	NC	No-Host Lunch Fly-In, Mansfield, Ohio	Flying Turtle Cafe
May 1	NC	No-Host Lunch Fly-In, Muncie, Ind.	Vince's in Terminal
May 15	NC	No-Host Lunch Fly-In, Cincinnati, OH	Sky Galley in Terminal
May 16	NC/SC	Gaston's White River Resort, Ark. (3MO)	Mark Pfeifer (507) 829-5889 E-mail: markpfeifer@charter.net or Butch Baker (940) 683-4540 E-mail: butchb@ntws.net
May 21-23	SW	Universal Studios Tour (VNY)	Dorian Swartz (530) 620-4422 Email: dorian@awesomemourmet.com
May 29	NC	No-Host Lunch Fly-In, Janesville, WI	CAVU Cafe
June 11-13	SC	San Antonio, Texas	Butch Baker (940) 683-4540 E-mail: butchb@ntws.net
June 12	NC	No-Host Lunch Fly-In, Jackson, Mich.	Don's in Terminal
June 24-28	Europe	Sienna, Italy	Ben Ayalon Email: benjamin.ayalon@virgin.net Call: +44 1707 394540
June 26	NC	No-Host Lunch Fly-In Lake Geneva, Wis.	Newport Grill
June 26-27	SW	Annual Meeting & Technical Seminar Santa Maria, Calif. (SMX)	Pat Rowe (805) 934-2123
July 10	NC	No-Host Lunch Fly-In, Cincinnati, Ohio	Sky Galley in Terminal
July 24	NC	No-Host Lunch Fly-In, Cleveland, Ohio	Hornblowers at west end of Terminal
Sept. 14-19	MS	ICS Annual Convention (MKC)	www.ics-kansascity2004.com
Aug. 27-30	Europe	Amsterdam, Netherlands	Ben Ayalon Email: benjamin.ayalon@virgin.net Call: +44 1707 394540

at the price of \$145 per night. To be a part of this great experience, contact the Inn at Price Tower at (877) 424-2424. Tell them you are with the Comanche group.

When the nine rooms at the Price Tower are gone, or for those who prefer, we also have accommodations set up at the Hotel Phillips 66. The

bed-and-breakfast rate for standard rooms are \$59 and for suites \$69. To make your reservations, contact the hotel by calling (800) 331-0706.

Bartlesville offers a wide variety of activities, including some of the best antique shopping you can find. This town is filled with history that includes the Phillips brothers

North Central "No Host" Luncheon Fly-Ins

DATE	DAY	LOCATION	AIRPORT	RESTAURANT	TIME
04/03/04	Saturday	Cleveland, OH	BKL	Hornblowers at West End of Terminal Bldg.	11:30 EST
04/17/04	Saturday	Mansfield, OH	MFD	Flying Turtle Café in Terminal	11:30 EDT
05/01/04	Saturday	Muncie, IN	MIE	Vince's in Terminal	11:30 EST
05/15/04	Saturday	Cincinnati, OH	LUK	Sky Galley in Terminal	11:30 EDT
05/29/04	Saturday	Janesville, WI	JVL	CAVU Café	11:30 CDT
06/12/04	Saturday	Jackson, MI	JXN	Don's in Terminal	11:30 EDT
06/26/04	Saturday	Lake Geneva, WI	C02	Newport Grill	11:30 CDT
07/10/04	Saturday	Cincinnati, OH	LUK	Sky Galley in Terminal	11:30 EDT
07/24/04	Saturday	Cleveland, OH	BKL	Hornblowers at West End of Terminal Bldg.	11:30 EDT

(Phillips 66), Frank Phillips home, the Woolarac Ranch, Museum and Wildlife preserve, Keepsake Candle Factory and Country Store, Price Tower Art Center.

To make sure that you visit all the sites that interest you, we have arranged a deal with Enterprise car rental for to rent a car for \$9.99/day, 3-day minimum, with the cars picked up and dropped off at the airport. To make reservations contact Enterprise-Bartlesville at (918) 333-5353. If you would like to pair up with someone, contact us and we will help you out.

This weekend is "mostly unplanned" for you to enjoy, whether that's touring museums, shopping (antiques and otherwise), or kicking tires at the airport, or all of the above. However, leave time on Saturday evening for a unique dining experience at the Copper Restaurant and bar located on the 16th floor of the Inn at Price Tower. Check out www.visitbartlesville.com for more info.

Registration will be \$15 per couple, payable when you arrive. Plan on arriving at BVO sometime Friday, and we will greet you at the airport. Please drop us a line to let us know you're coming, and we look forward to seeing you there! Hosts are Denise and Mark Pfeifer. Reach them by calling (507) 532-0439 (home), (507) 829-5889 (cell), or send e-mail to: dpfeifer@charter.net.

Joint Fly-in North Central Tribe & South Central Tribe

May 16

Gaston's White River Resort, Ark. (3MO)

Sunday, May 16th, 11 a.m., join Mid States and South Central tribes for brunch at Gaston's White River Resort in Northern Arkansas. Gaston's has its own airstrip (6/24 3,200 feet turf, (3MO), 122.8, power lines on west end, land Rwy 24, takeoff Rwy 6.)

If you wish to fly in earlier, they also have several cottages available, and are offering their fly-fishing

school on the 15th and 16th.

For accommodations or fly fishing reservations/info, contact Gaston's direct at (870) 431-5202. More info at www.gastons.com.

Registration is not required, but please let us know if you're coming or thinking about it, so we know how many reservations to set up at the restaurant. Contact Mark Pfeifer, (507) 829-5889, markpfeifer@charter.net or Butch Baker, (940) 683-4540, butchb@ntws.net.

South Central Tribe

June 11-13

San Antonio, Texas (SSF)

South Central will be hosting a fly-in in San Antonio the second weekend in June. We will be staying in the historical Menger Hotel. Established in 1859, the hotel is truly elegant. There are historic photographs and memorabilia in glass cases in the main lobby.



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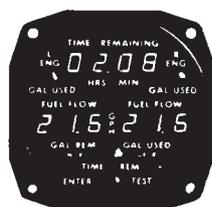
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These include pre-1900 photographs of the original registration desk, the Victorian lobby and other interesting facts about this grand hotel. It is located across the street from the Alamo. For a closer look at the hotel, look on the Web site: www.HistoricMenger.com. We have been given a rate of \$89. After arriving Friday afternoon, we will go to the river walk for dinner.

Saturday morning we will go to the also historical Guenther House for breakfast. This is the home of Carl Himar Guenther, the founder of Pioneer Flour Mills. It was built in 1860 and has been restored by the company and welcomes visitors as a museum, restaurant and retail store. It is located on a bend of the San Antonio River, at the foot of King William, one of the oldest historical districts in Texas. The entire top floor is referred to as the Roof Garden, a spacious, airy, former ballroom, with an adjoining open terrace over looking the river. We

will have breakfast on the Roof Garden, tour the museum, and can shop at The San Antonio River Mill Store. The store offers gourmet baking mixes, custom stoneware, cookware and other gift items. For more information on The Guenther House look on their Web site: www.guenther-house.com.

Continuing on our historical weekend, we will go to the Buckhorn Saloon & Museum. This has been in continuous operation since 1881. The history of this world famous establishment is an important part of the story of San Antonio. It was voted "2002 Best Attraction" by the Downtown Alliance/San Antonio. For more information go to the Web site: www.buckhornmuseum.com.

Saturday afternoon the group will be on their own to go to the Alamo, shop on the river walk, or partake of the many other attractions in downtown San Antonio. Saturday evening we will ride the

trolley to Market Square for dinner at Mi Tierra Café & Bakery. This restaurant is known as the restaurant that never sleeps. It is open 24 hours a day 365 days a year.

The registration will be \$42 per person. This will include transportation, breakfast at the Guenther House, and entrance to the Buckhorn Saloon & Museum.

Arrangements have been made to use San Antonio Aviation, Inc., at Stinson Municipal (SSF). The FBO will give our group a discount on fuel and waive the parking fee with fuel purchase.

The hotel is holding 15 rooms until May 11. For reservations call (800) 345-9285 or (210) 223-4361. Let them know you are with the International Comanche Society for the \$89 rate.

Send registration to Butch Baker at 1216 Butterfield St., Bridgeport, TX 76426. Make checks out to ICS-SCT. Phone number is (940) 683-4540. E-mail is butchb@ntws.net.

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Southeast Tribe

April 15-17, 2004

Treasure Cay

Abaco Island, Bahamas

Back by popular demand, the Southeast Tribe is arranging another fly-in to Treasure Cay. Everyone enjoyed the fly-in last year and has asked for more of the same. We are still in the planning stages as far as trips, dinners, etc., are concerned.

Judi and I are renting a large beach side home about one mile from the hotel. Last year everyone brought food and we had dinner at the house Friday and Saturday nights. Judi coordinated the meals by phone with all participants before we left Florida. Our home will be open and available throughout the fly-in, so if you want you can spend your days walking the beach, swimming or snorkeling.

Thursday night is pizza night at

the hotel's Tiki bar by the pool, which we hope everyone will enjoy. Last year we took a 60-foot yacht on Friday to Guana Cay for lunch, swimming in the two salt-water pools and socializing at Nippers Bar & Restaurant. The food was superb, the atmosphere terrific and we had a beautiful view of the Atlantic Ocean. We may be able to arrange this again. A 15-passenger bus is available for a trip to Marsh harbor marina and downtown area for shopping and lunch on your own. It is about a 40-minute ride and costs \$15 per person. The approximate cost for the three days will be \$600 for two people.

We will fly in to Treasure Cay Airport (MYAT) on Thursday, clear customs, take a cab (at \$14 for two) to the hotel which is located about seven miles from the airport and check in at 12 noon. This is the off-season for the hotel. Room rates for three night stay at \$98, deluxe at \$112,

deluxe suites at \$ 182.00 and two-bedroom suites at \$238.

If you can arrange it, try to get a room overlooking the marina as it is a nice view. Accommodation rates quoted are based on single or double occupancy, subject to availability, tax at 10 percent and service charge at \$1.50 per person, per night. Rates include a complimentary welcome drink voucher per person on arrival.

Rooms have two twin beds or a king bed, mini refrigerators, toaster, coffee maker, cable TV, phone, A/C, hair dryer, and ironing board. They have indicated they would give us one room with a complimentary upgrade for the hospitality room. The hotel has a large dining room and a Tiki bar by the pool. Within less than a quarter mile you have a convenience store, small grocery store, at least four gift shops, a bakery and ice cream store, golf cart, scooter, bike and boat rentals, and a lovely white sand beach several miles long. There is only one restaurant in Treasure

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Cay, and it's at the hotel. Other restaurants out of town will come and pick up diners when called.

Phone contact for Treasure Cay Resort Hotel & Marina in Ft. Lauderdale is (800)327-1584. Ask for Carrie Blair or Lynn June. (Web site is www.treasurecay.com). The direct phone to the hotel is (242) 365-8801.

If coming from the north you can land at Spruce Creek (7FL6) with fuel at \$2.15 per gallon, or Massey Air Ranch (X50) with fuel at \$2.18 per gallon. Coming from the south you have Okeechobee (OBE) with fuel at \$1.95 per gallon. Check Web site airnav.com. You will have to pay a \$15 per person departure fee from the Bahamas.

You only need life jackets to be legal to fly to the Bahamas. For Bahamas customs, you will need a picture ID (drivers license) and voters registration. For you return to the United States you will need either a passport or a birth certificate for customs.

For more information, please contact Ken Rivard (321) 453-6700 or e-mail silkie1@bellsouth.net.

Southwest Tribe

May 21-23 Universal Studios, Los Angeles (VNY)

Join the members of the Southwest Tribe for an excursion into the Los Angeles area to visit Universal Studios. Dates for this fly-in are May 21 and 22, with departure on the 23rd. You will fly into Van Nuys Airport (VNY) and stay at a local hotel.

Friday evening will be on your own to shop, eat (lots of famous-name restaurants on "Universal Walk"), or even go to the movies. On Saturday we will plan on going inside the Park to enjoy the rides and movie sets, and perhaps even see a star or two.

For more information, contact Dorian Swartz, Tribe Chief, at (530) 620-4422, or e-mail to dorian@awesomemgourmet.com.

June 26-27 SW Tribe Annual Meeting & Technical Seminar Santa Maria, Calif. (SMX)

One of the most popular fly-ins of the year is the trip to Santa Maria on the California coast has something for everyone. Great weather and an action-packed technical program are sure to make it fun.

It all starts with parking our planes on the tarmac just outside the hotel. Personnel at Wyatt Aircraft have volunteered to put on a technical seminar again this year, and, judging by member participation last year, it should be interesting, informative, and well attended.

Our traditional evening banquet and business meeting (with elections of officers for the coming year) will follow the day's activities. If our departures are timed just right, we might be able to get boxes, or "flats," of freshly picked strawberries from the local farms.

For information, contact Pat Rowe at (805) 934-2123.

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Europe

**April 2-5
Gloucester, UK**

This event will be hosted by Jacquie and Jim Balmer & Barry Walker. There will be a one-day technical seminar in Barry's hangar (sight-seeing/shopping for the more cultural-minded). One day is designated to see the beautiful Cotswolds.

Please contact flyin@jim-balmer.plus.com or call +44 1285 650094 or fax : +44 1285 642873.

**June 24-28
Siena, Italy**

This fly-in will be hosted by Ben Ayalon.

We will spend three full days exploring Siena and its surroundings. The region of Tuscany is well known and sought after by travelers who enjoy its wealth in history set in a mellow and peaceful countryside.

Please contact benjamin.ayalon@virgin.net or call: +44 1707 394540 or fax: +44 1707 392575

**August 27-30
Amsterdam, Netherlands**

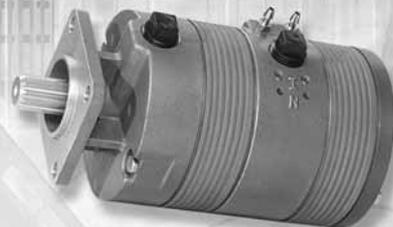
This event will be hosted by Ben Ayalon.

We will visit an Air Museum, sail the canals of Amsterdam, tour the dykes and region to the north of Amsterdam and visit a replica of a ship used by the "East India Company."

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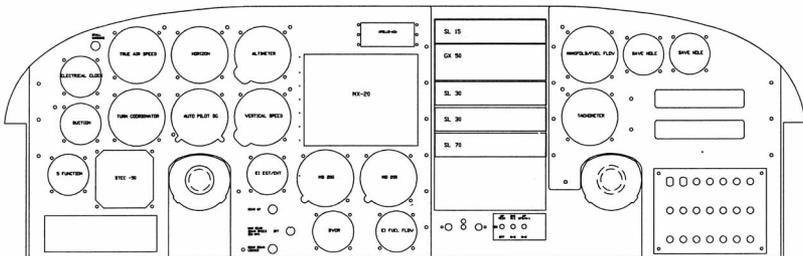
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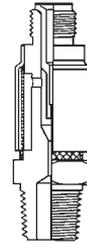
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