Safe Disposal of Toxic Waste Created by Maintenance Activities

by
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Editorial Coordinator

Most of the environmental concerns attributed to aviation have been generated by publicity surrounding the noise issues and some concerns have been voiced about the air pollution created by aircraft operations. Very little has been heard, however, about the potentially damaging effects to the environment of the by-products and wastes that result from aircraft operations and maintenance.

The fuel which you drain from the sumps during preflight checks and maintenance, the oil drained from the powerplants during periodic checks and even the detergent and rinse water used to wash the aircraft are potentially damaging to the environment, if they are not properly treated and disposed of. Some of the more toxic chemicals and residues of various maintenance activities are dangerous to the health of the technician, and certainly are also hazardous to the environment if not handled and disposed of in accordance with appropriate standards. ("Hazardous Waste and Aviation," September 1990 *Flight Safety Digest*)

Although most of the regulations and standards quoted in this article pertain only to operations in the United States, the environmental concerns and principles are valid worldwide. All technicians and supervisors are encouraged to review their local activities, and to take appropriate steps to assure that the health of their own staff is protected. In addition, they have a responsibility to protect the environment from damage or ill effects as a result of wastes created in performance of their normal maintenance and servicing activities.

Hazardous chemicals used in various maintenance operations pose a much more serious threat to both

the in-house worker and the general environment. Organic solvents used in paint removal, such as acidic and alkaline wastes from cleaning and corrosion treatments and electroplating chemicals, can severely damage the pipes and concrete ducts of local sewage systems. If they reach the treatment plant in sufficient quantity, the treatment facility can be badly damaged by such harsh chemicals.

As a basic rule of thumb, any waste that exhibits any of the characteristics of a hazardous waste — ignitability, corrosivity, reactivity and toxicity — should be considered hazardous. The U.S. Environmental Protection Agency (EPA) has established a three-tier system of rating producers or hazardous waste, based upon the quantity of hazardous wastes generated by the individual or organization.

- *Conditionally exempt small quantity generators* are those that generate less than 220 pounds (100 kg) of hazardous waste and no more than 2.2 pounds (one kg) of acutely hazardous waste in any calendar month.

- *Small quantity generators* are those that generate between 220 and 2,200 pounds (100 and 1,000 kg) of hazardous waste and no more than 2.2 pounds (one kg) of acutely hazardous waste in any calendar month.

- *Large Quantity Generators* are those who generate more than 2,200 pounds (1,000 kg) of hazardous waste and no more than 2.2 pounds (1 kg) of acutely hazardous waste (certain commercial products specified by EPA) in any calendar month.

Did you know:

- that in the United States, people use 2.5 million plastic bottles *every hour* and recycle only a tiny percentage of them.
- that the amount of used, non-recycled engine oil that is improperly disposed of in the United States each year constitutes 10 to 20 times the spillage from the *Exxon Valdez*.
- that by recycling, 2.5 quarts of "new" engine oil can be extracted from one gallon of used oil.
- that it takes about 42 gallons of crude petroleum to make 2.5 quarts of engine oil.

Two hundred twenty-two pounds (100 kg) only slightly more than one-half barrel of a typical chemical or fluid, such as gasoline, jet fuel, or other chemical, so there are very few maintenance shops that could be considered conditionally exempt small quantity generators. Any other facility that falls into the small quantity or large quantity category is required by law to obtain an EPA identification number for the accumulation and transportation of hazardous waste.

Time and quantity limits are set for the accumulation and storage of hazardous wastes. The conditionally exempt small quantity generator has no time limit; however, if such an agency allows 2,200 (1,000 kg) or more of hazardous waste to accumulate, it will lose its exempt status and all the accumulated waste is subject to full regulation and must be sent to a designated hazardous waste disposal facility within 180 days.

Small and large quantity generators have established limits as to the quantity of waste that can be accumulated and the time that it can be stored on-site. Exceeding these limits invites the requirement that the facility obtain a storage permit and imposes even more stringent restrictions for the safe storage of the potentially harmful chemicals and fluids.

Any facility which is involved in activities that create hazardous wastes should take the initiative to become thoroughly familiar with the rules and regulations governing hazardous waste disposal.

Sources of Pollution And Contamination Reviewed

Aircraft washing is probably the most common source of potential pollution or contamination of ground water, yet it rarely is addressed as such. The procedure usually consists of spraying the entire aircraft with cleaning agents, most often containing an alkaline agent, scrubbing or brushing to loosen dirt, oil film and exhaust by-products, and then rinsing with large quantities of water to remove the emulsified residue.

Where does all of that dirty contaminated water go? Often it runs off the ramp directly into the surrounding soil. In this situation, the contaminated water can soak into the soil and eventually find its way into the ground water supply which feeds drinking water wells in surrounding communities. In other cases, it may drain into a storm sewer system or the nearest pond or stream.

In the United States, the federal government has established water qual-

ity standards intended to adequately protect the public health. In order to support these standards, federal, state and local regulations have been promulgated which can have a major influence upon airport operations. Individuals or organizations performing aircraft washing operations are advised to coordinate with their local airport managers and assure that drainage from washing of aircraft is properly treated or handled in accordance with established standards.

De-icing/anti-icing operations are usually performed outside. At a large airport, exposed to severe winter conditions, thousands of gallons of glycol/water solution are dispensed daily during that season. On open ramp areas, most drain water finds its way into storm water drains or sewer systems, while some inevitably drains off the ramp into the surrounding soil.

Although the normally used glycol-based de-icing/anti-icing solutions are not considered hazardous waste, they do pose a severe problem for sewage treatment plants. Glycols are eventually biodegradable; however, they have a much higher biological oxygen demand (BOD) during the process and, when introduced into a normally functioning public sewage treatment facility, can easily overload the capacity of the facility. Several cases have been documented where the local sewage treatment facility was effectively shut down due to the overload created by heavy de-icing activity at the local airport.

Until an effective alternative to glycol-based de-icing/anti-icing fluids is developed, proper control and disposal methods must be adhered to. Special areas with additional catch basins, recovery and recycling equipment and on airport pre-treatment facilities have been effectively used to minimize the harmful effects of this source of pollution.

For the small quantity user of these fluids, it may be practical to consider using an absorptive material to soak up the expended fluid. The residue should then be deposited in an approved solid waste disposal area.

Batteries are hazardous waste. Spent or defective lead-acid, lithium, and nickel-cadmium batteries all contain chemicals which are corrosive and, therefore, are listed among the materials classified as hazardous waste. Any shop disposing of such materials must include such materials in their consideration when complying with EPA regulations involving proper disposal.

Metal plating operations are a major source of hazardous chemicals such as cyanide, chromium compounds, copper, lead and zinc. Wastes created in plating operations

must be very carefully evaluated and properly handled to assure that they do not enter the ground water supply, storm drains or sewage systems. Aside from the poisonous or carcinogenic aspects of these chemicals, they have very harmful effects on the biological activity in a normally operating sewage treatment facility.

Emulsified oil and grease are also very harmful to sewage systems because they coat the pipes and plumbing and interfere with the biological activity within the sewage treatment facility. Suspended solids and grit which are carried away with cleaning, and the emulsification of petroleum based solvents and cleaning agents, may clog the flow distribution system devices and air nozzles within the treatment facility. If flammable, these solvents may result in fires or explosions within treatment plants. Detergents can cause foaming in aeration basins and generally disrupt the proper operation of the treatment facility.

References and Related Reading

"Management of Airport Industrial Waste" *FAA Advisory Circular 150/5320-15* .

"Environmental Enhancement at Airports — Industrial Waste Treatment," *FAA Advisory Circular 150/5320-10*.

Hazardous Materials Emergency Planning Guide, DOT P 5800.4.

Profit from Pollution Prevention, Pollution Probe Foundation Toronto, Ontario, Canada.

Industrial Water Pollution Control, 2nd. Edition, McGraw-Hill, New York, N.Y., U.S.

"Protection of Environment," *U.S. Code of Federal Regulations* Title 40.

Management Must Address Waste Disposal

Managers and supervisors at every maintenance facility have a responsibility to properly address the disposal of wastes created by their maintenance activities. Due to the increased costs of waste disposal, more stringent regulations for waste management and regulations that prohibit land disposal of certain wastes, recent attention has been focused on strategies that reduce the total volume, toxicity and sources of such waste.

To effectively reduce a facility's exposure to disposal problems, the first step is to conduct an objective and realistic analysis of the current source and volume of each potentially dam-

aging waste material. After all sources are identified, each can be reviewed to determine what alternatives are available to:

- Eliminate the waste by using a different process.
- Reduce the waste by recovery or recycling.
- Reduce the hazardous or harmful effects by pre-treatment.
- Control the harmful effects to workers and the environment with proper containment, storage and disposal.

Ignoring the problem could result in damage to the health of workers and costly fines or litigation for companies found not in compliance with the appropriate regulations. ♦

NEWS & TIPS

The First U.S. Licensed Mechanic

The Foundation recently became curious about who was the first person licensed as an aircraft mechanic in the United States. The Federal Aviation Administration (FAA) historian in FAA's Washington, D.C., headquarters, and the FAA Airman Records Branch in Oklahoma City, Okla., found that a person by the name of Frank Gates Gardner was issued aircraft and engine mechanics certificate number 1 on July 1, 1927, by the U.S. Civil Aeronautics Authority (CAA).

At the time of licensing, Gardner resided in Norfolk, Va. An effort was made to locate this individual or any living relatives, to learn what he had done as the first U.S. licensed aviation technician. As of this writing, we have been unable to find any trace of him.

If any of our readers have any information about Gardner, or "first" technicians in other countries, contact Flight Safety Foundation.

Trust Is a Key Word In the Aviation Community

An anonymous technician recently submitted a letter to the Foundation in which he shared some of his thoughts and concerns about trends he sees developing in the air carrier

industry. Based at a major international gateway airport in the United States, this technician reported that he is frequently confronted with situations which tax the human capacity to cope. Stress has, in his opinion, been a causative factor in accidents and incidents.

One area of concern which he mentioned was a respective lack of understanding of the duties, responsibilities and capabilities of technicians and ATC control tower personnel. After describing situations that had occurred as a result of ground controllers not understanding the technician's responsibilities or capabilities and vice versa, he suggested that controllers should be required to spend a week on the ramp with technicians responsible for taxiing and towing aircraft; technicians should be required to spend a week in the tower. Each could develop a better understanding of the other's role in safe operations on the ramps and taxiways of a busy airport.

Although it is unlikely that such a program would become mandatory, the idea has validity and is workable on a voluntary basis. With a phone call and explanation of the reason for the request, any tower chief may welcome the opportunity to allow a conscientious technician to spend some time in the tower to better understand what really goes on during hectic periods of activity. This would also give the technician an opportunity to extend the invitation to ground controllers to visit the ramp and ride along as aircraft and support equipment are repositioned on the ramp.

In previous years, this cross-visiting was common. Unfortunately, the increasing pace of activities at busy airports has probably resulted in less inter-group communication with the result that both groups have suffered. Take the initiative and make the first step to increase this kind of exchange at your airport.

Another issue brought out in this technician's letter was trust. He said, "Trust is a human factor; it is a principle we live by. When you think about it, 'trust' is what makes the airline business what it is today. Trust is a tool the airline people use on a daily basis regardless of what his or her job may be. But when the human being has to work beyond human capabilities, 'trust' is diminished."

The scope and pace of aviation activity is not going to diminish. Trust will continue to be a vital factor in all segments of the industry. It might be well to add one further thought to expand the concept to: Trust, *but verify.*

When driving an automobile and you are about to enter traffic, how many times have you asked the passenger, "Is it okay your way?" You have no

reason to not trust the answer, *but you still look for yourself!* Trust, but verify!

Sandia to Manage Aging Aircraft Research Center

Sandia National Laboratories, Albuquerque, N.M., U.S., will manage a research center to develop advanced techniques for monitoring the safety and performance of aging aircraft. The Aging Aircraft Nondestructive Inspection Development and Demonstration Center (AANC) will be operated for the U.S. Federal Aviation Administration (FAA). The work will be done in conjunction with New Mexico State University and Science Applications International Corp., a San Diego, Calif. based firm.

The Albuquerque center will be responsible for developing state-of-the-art, non-invasive techniques for inspecting aircraft and for transferring this technology to the commercial aviation industry. Ruth David, director of development testing at Sandia, stated that, "The ultimate goal is to transfer advanced testing technology to airline operators, who will then carry out fleet inspections on their own."

The overall program will be addressed in three phases, with the intent of matching high-priority aircraft inspection problems with emerging or existing nondestructive inspection (NDI) solutions. One of the first tasks to be undertaken is that of developing practical techniques for inspecting engines without removing them from the aircraft.

Sandia is also charged with evaluating methods of inspecting riveted lap joints in pressurized fuselage structures. This research is expected to develop the probabilities of detection (or likelihood that an existing flaw will be detected) for various inspection techniques in use today. This data will then enable manufacturers and regulatory agencies to specify how often inspections must be scheduled repetitively to assure continued aircraft airworthiness.

The second phase of the program will center on transferring new methods and technology for NDI to the industry. Plans include evaluation of advanced inspection equipment presently in use by the U.S. Department of Defense for potential use by the commercial operators.

The final phase of the program will be to verify the need for multiple inspection techniques to achieve a high level of confidence in the inspection process. Evaluations will include advantages and safety of robotic or machine-aided inspections.

An important aspect of the AANC will be the creation of an archive of material evidence and information on aging aircraft to be housed at the Sandia facility, including a database of aircraft NDI techniques and test results.

Regulatory Compliance Audits Are Available

DuPont Safety and Environmental Resources has announced the availability of a regulatory compliance auditing process as a part of its safety and environmental management services.

Congressional pressure and regulatory enforcement by the U.S. Environmental Protection Administration (EPA) and the U.S. Occupational Safety and Health Administration (OSHA), which has resulted in stiff fines and criminal penalties, are cited as reasons for initiating this contracting service.

The three-part compliance auditing process, which includes auditing protocol, a week-long training session and site audits led by DuPont consultants, is designed to help managers meet current safety and environmental regulations. The auditing protocol, which is presented in a three-volume set of books, is based on DuPont experience and includes practical advice and directions that meet or exceed the regulations.

In addition to the auditing protocol, the training session teaches clients safety and environmental managers how to conduct their own effective compliance audits. Interested persons may direct inquiries to: Regulatory Compliance Auditing Process, DuPont Safety and Environmental Resources, P.O. Box 80800, Wilmington, DE, U.S. 19880. Telephone 1-800-532-SAFE. ♦

MAINTENANCE ALERTS

This information is intended to provide an awareness of problem areas through which such occurrences may be prevented in the future. Maintenance alerts are based upon preliminary information from government agencies, aviation organizations, press information and other sources. The information may not be entirely accurate.

Lost Wrench Means Trouble

Shortly after takeoff from the U.S.

Naval Air Station Virginia Beach, Va., U.S., the pilot of a twin-jet Grumman A-6E attack aircraft ran into trouble. He reported hearing a loud explosion and saw a steady bright glow accompanied by a grinding noise from the left engine. Unable to return to the field, the pilot headed the aircraft over the Atlantic ocean, barely clearing a hotel on the beach. The pilot and the bombardier-navigator ejected safely, but the 33 million dollar aircraft crashed into the ocean. One of the pilots' helmets fell clear and smashed a window in a parked car but, luckily, no other damage resulted to persons or property from the accident.

U.S. Navy divers were able to recover the wreckage of the aircraft, and subsequent investigation revealed a five-inch-long wrench lodged inside the left engine. Further analysis disclosed that the wrench had been "lost" four months earlier but had, in fact, been misplaced during maintenance and remained in the nose wheel well of the aircraft. The wrench apparently came loose during this takeoff and was ingested into the left engine where it destroyed most of the turbine engine blades, resulting in subsequent damage which severed hydraulic lines rendering the aircraft incapable of returning safety to base.

Every unaccounted tool is potential foreign object damage FOD. Keep looking for it until you find it. It is not safe to assume that a tool is "lost" in a safe place.

Wheel Well Fire Warning May Be Difficult to Trace

There is a common misconception among flight crews that wheel well fire warnings are caused solely by overheated brakes. Engineering analysis by Boeing Commercial Airplane Group, however, indicates that the brakes alone cannot generate enough heat to trigger the fire detection system, unless the overheated brakes have ignited tires, hydraulic fluid or other flammable substances.

Experience has shown that, in most cases of an inflight wheel well fire warning, extending the gear to cool the brakes as well as the wheel well area produces good results in coping with wheel well fires. However, there have been incidents where extending the gear did not resolve the problem. One such example was an incident where the electrical lead to a hydraulic pump in the wheel well shorted, burned a small hole through the hydraulic pressure line and ignited the spraying fluid. After the gear was extended, the fire warning light extinguished but the fluid from the ruptured line continued to burn.

Boeing has revised procedures in all Boeing operations manuals to give flight crews better guidance for coping with wheel well fires.

If an actual fire has occurred, the technician's tasks are usually obvious and there will be little difficulty in determining the source of the fire and repairing the resultant damage. However, in the event of wheel well fire warnings which are eliminated by lowering the landing gear to cool the brakes, and which do not recur, technicians should be reminded that brake heat alone is usually not sufficient to trigger the fire warning. Investigation of the cause of the apparent "false" fire warning should include a detailed inspection to assure that nothing was ignited or damaged before releasing the aircraft for return to service.

FOD Jams Landing Gear

The crew of Boeing 737-300 on approach reported they were unable to get a gear down and locked indication on the right main landing gear. The aircraft was diverted to another airport where a tower flyby confirmed that the gear was indeed, not extended. The flight was again diverted, this time to a third airport where more extensive crash/fire/rescue (CFR) facilities were available. The aircraft landed with the right main gear fully retracted. After the aircraft came to a stop with minimal damage and no fire, emergency evacuation was successfully completed with no injuries to the passengers or crew.

The cause of the gear malfunction was found to be a three-cell flashlight that was jammed in the gear mechanism. The flashlight was of the type commonly used by technicians to inspect and service the gear.

Apparently, a technician had been distracted during the performance of a walkaround check and put the flashlight on the gear mechanism, intending to recover it and complete the check later. His failure to retrieve the flashlight resulted in a very costly incident which could have had catastrophic results.

Missing Bolt Results in Gear Up Landing

A Boeing 747-400 aircraft was approaching to land at Los Angeles International Airport, Calif., U.S. The flight crew was unable to get a proper down and locked indication on the body-mounted landing gear. Alternate gear extension procedures were ineffective; all attempts to lower the gear failed.

The passengers and crew were prepared for a gear-up landing and the aircraft touched down with only the two wing-mounted gear extended. After the pilot lowered the nose, the aircraft settled on the open nose gear doors eventually stopping on the runway where an emergency evacuation was successfully accomplished.

Failure of the nose and body-mounted gear to extend was attributed to a missing bolt and nut in the mechanical linkage between the nose and body gear selector valve and the selector valve input quadrant. Disengagement of the bolt after selection to the "gear-up" position after takeoff resulted in continuous gear-up hydraulic pressure to the system, which could not be overcome by the alternate extension procedures.

How the bolt came to be missing was not determined.

Maintenance Error Is Preventable

Maintenance error, mechanical malpractice, goof-up — whatever you call it — it all boils down to the fact that someone made a mistake. Among the many incident and accident statistics, accidents and incidents attributed to maintenance error usually represent only a small fraction of the total. What is disturbing however, is the fact that virtually every one of these occurrences is preventable.

One or more of these factors is present in every accident or incident attributed to maintenance error:

- Failure to follow established procedure. A break in the routine, being rushed to complete a job or being pulled from one job to work on another;
- Use of unapproved procedures. Taking shortcuts, eliminating steps, use of improper tools or test equipment;
- Improper quality assurance procedures. Failure to call for double inspection of completed tasks, or signing off a re-check without inspecting the work;
- Poor or missing work turnover. Verbal turnovers which are not clear or complete, failure to note status of work in process;
- Inadequate supervision. Untrained or unqualified technicians assigned to tasks without adequate supervision or on-the-job assistance; and,
- Lack of tool control. Leaving tools in areas where they can jam a mechanism or be ingested into powerplants.

Technicians are trained to know the factors that allow a maintenance error to occur. Policies, procedures and methods have been developed that have proven to be effective in preventing maintenance error. Simply following these procedures to the letter with no short-cuts and no cutting corners to save a few minutes can ensure that maintenance error is eliminated from the accident statistics. ♦

NEW PRODUCTS

Get the Goo Out of The Ground Safely

A new on-site process for decontaminating soil to prevent petroleum products from contaminating ground water has been developed by Hrubetz Environmental Services Inc. The company claims its patented process eliminates the need for soil excavation by injecting heated air directly into the soil to volatilize and oxidize petroleum contaminants. Return vented gases are then incinerated to complete the contaminant destruction process.

The equipment, which incorporates automatic safety features, is trailer-mounted and can be driven directly to the contaminated site, negating the need to transport waste material.

Hrubetz states that the process vaporizes soil moisture, thereby "steam distilling" the contaminating hydrocarbons. Those which will not volatilize are claimed to be destroyed by oxidation within the soil at a temperature of approximately 800 degrees F. The process is said to be effective for a wide range of petroleum substances, fuels and residual oils in the soil.

For further information contact Hrubetz Environmental Services Inc., 5949 Sherry Lane, Suite 800, Dallas, TX 75225 U.S. Telephone (214) 363-7833.

Waterjet System Removes Coatings More Safely

Flow International Corp. has introduced an ultrahigh-pressure waterjet coating-removal system for use during jet engine inspection and overhaul. It is said to be capable of removing plasma sprayed ceramic and metallic coatings from jet engine components without use of harsh

Photograph not available.

chemicals or abrasive particle blasting. Reduction in hazards to personnel and the environment are claimed as additional benefits.

The system uses a patented intensifier pump that pressurizes water up to 55,000 psi. The high-velocity waterjets (with water speeds up to Mach 3) are integrated with an automated control assembly. All operations are conducted within an enclosed cabinet that contains the moisture, waste and inherent noise of the operation.

This system is said to drastically reduce the time required for cleaning; eliminate the need for use of harsh chemicals; and leave the components with an extremely clean surface to enhance visual inspection.

For more information contact Flow International, 21440 68th Avenue South, Kent, WA 98032 U.S. Telephone (206) 872-4900.

On Board Corrosion Diagnostic System

A system developed by the Battelle Memorial Institute, Columbus, Ohio, U.S., is said to be capable of accurately and reliably identifying the degree of corrosion occurring difficult-to-view inspection areas of an aircraft. The system, which is now licensed to Mil-Com Electronics Corp. for manufacture and distribution, uses small sensors located in critical areas of concern, which are wired into a central readout point.

Photograph not available.

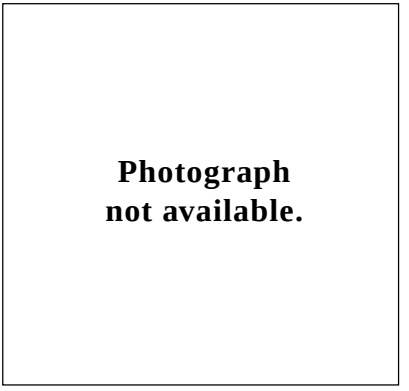
Prototype systems are presently being field-tested and readings are recorded daily to monitor the system. The intent of the system is to be able to monitor corrosion activity and provide an alert so that detailed inspections or rework can be scheduled on a routine basis.

For more information contact Mil-Com Electronics Corp., 3503 Crosspoint Drive, San Antonio, TX 78217 U.S. Telephone (512) 646-0347.

Puller Set Improves Work Safety

A mechanical puller set that can be configured in more than 30 different combinations has been introduced by Steel Grip Tools, Inc. With the many various puller components provided, the manufacturer states that technicians need not "make do" with a puller which does not properly fit the application and may slip or fail with injury to the user or damage to parts.

All components are supplied in a compartmentalized carrying case that encourages proper storage and minimizes the exposure to loss or damage. All components are U.S. made and carry a lifetime guarantee.



For more information, contact Steel Grip Tools Inc. 5252 W. Armstrong Avenue, Chicago, IL 60646 U.S. Telephone (312) 763-6500 ♦

Call for Nominations for The Joe Chase Award

A call for nominations is being made for the Flight Safety Foundation Joe Chase Award, which is administered by the Professional Aviation Maintenance Association (PAMA). This year's award will be presented during PAMA's Annual Aviation Maintenance Symposium and Trade Show in Nashville, Tenn., U.S. February 25-27, 1992.

Joe Chase, known in aviation circles as the champion of the forgotten man — the aviation technician — originated publication of the FSF *Aviation Mechanics Bulletin*. He used the *Bulletin* and other means to raise the status of the aviation maintenance technician. Chase recognized that technicians play a vital role in aviation safety and strove to communicate this belief throughout the industry.

Foundation readers are encouraged to participate in the Joe Chase Award program and to **submit nominations by November 25, 1991, to PAMA Headquarters**, 500 NW Plaza, Suite 401, St. Ann, MO 63074. Phone (314) 739-2580; FAX (314) 739-2039.

Eligibility Requirements

One or more of the following is needed for the candidate to qualify for the award:

1. Candidate should show dedication to learn and continuously educate himself or herself and communicate what is learned to others in the aviation field.
2. Candidate must show dedication to the improvement of communications between employer and employee in the aviation industry.
3. Candidate must show dedication to the communications methods which advance the knowledge of the aircraft technician.
4. Candidate must show dedication to the improvement of the role of the aviation technician.

This dedication to the improvement of communications and increased learning must be conducted beyond the normal work requirements.

Nomination for Flight Safety Foundation Joe Chase Award

Nominee Information

Name _____

Address _____ City _____

State ____ Zip _____ Telephone (Home) _____

(Office) _____

Employer _____

Employer's Address _____ City _____

State ____ Zip _____ Telephone _____

Nominee's position _____

FAA Certificate # _____

Nomination submitted by _____

Address _____ City _____

State ____ Zip _____ Telephone (Home) _____

(Office) _____

Signature _____ Date _____

Include any letters of recommendation or news clips you think will assist the Nomination Committee in its decision.

1. How does the nominee continue to educate himself/herself?
2. How does the nominee share this knowledge with other employees?
3. How does the nominee try to improve employee/employer relations?
4. Give an example of how this nominee takes pride in his/her work?
5. Give an example of how this nominee indicates his/her dedication to the improvement and recognition of the aviation maintenance profession.
6. Give an example of how this person takes responsibility for the safety factor involved with aviation maintenance.
7. Give an example of how this person gives that extra effort and goes beyond the normal work requirements to get the job done correctly and on time.

Attach additional sheet to provide details to support nomination.