FLIGHT SAFETY FOUNDATION

Aviation Mechanics Bulletin

September/October 1989

Inside: 'I Wish I Had 100 More'

Quick-Response Cleanup Kit
for Hazardous Spills (p. 3)

FLIGHT SAFETY FOUNDATION

Aviation Mechanics Bulletin

Dedicated to the aviation mechanic whose knowledge, craftsmanship and integrity form the core of air safety.

Robert B. Phillips, editorial coordinator

September/October 1989 **Vol. 17 No. 5**

Cover: Quick Response Cleanup Kit for Hazardous Spills. See page 3.

What's Your Input?

Flight Safety Foundation welcomes articles and papers for publication. If you have an article proposal, a completed manuscript or a technical paper that may be appropriate for *Aviation Mechanics Bulletin* please contact the editor. Submitted materials are evaluated for suitability and a cash stipend is paid upon publication. Request a copy of "Editorial Guidelines for Flight Safety Foundation Writers."

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'I Wish I Had a Hundred More'

Available graduating aviation technology students, that is. This lament came from the placement office of the College of Aeronautics. The school, located at La Guardia Airport in Flushing, N.Y., U.S., was founded in 1937 to train maintenance personnel for the aviation industry. Its recent first-hand experience in technician supply and demand paints an encouraging picture for those considering a career in aviation maintenance and for others who may be reflecting on the advisability of continuing their present employment in the field.

According to Joseph Scalise, director of placement for the college, the school has experienced a nearly 100 percent placement for its graduates during the past five years and cannot keep up with industry demand for its graduates. "The good news for our students is that many positions are available," said Scalise, "The bad news for employees is that we do not have enough graduating students to fill them."

At a recent graduating ceremony for the Class of 1989, principal speaker Alan S. Boyd, chairman of Airbus Industrie of North America and member of the FSF Board of Governors, reiterated the growing potential for employment in the aviation maintenance field. Pointing to the current aircraft buying spree of the airlines around the world, he said, "Aviation technology will prove to be one of the large growth fields in the 1990s and into the 21 st century."

Boyd, the first U.S. Secretary of Transportation and former chairman of the Civil Aeronautics Board, emphasized that aviation technology will be one of the choicest careers for the next several decades because of a growth spurt in passenger and cargo air travel and the widespread focus on the next generation of transports. That generation could include a new supersonic commercial aircraft.

The need for an expanded work force for aviation and related industries is fueled by recent large commercial aircraft purchases. "Recent headlines indicate the scope of the exploding job market in aviation and related industries," said Scalise, who added, "Boeing's $9 billion aircraft order, Airbus' multi-billion dollar orders, Fokker's $3 billion order from

American Airlines and United Airlines' large purchase, have sent aircraft manufacturers scrambling to competitors and overseas to find a work force." According to Scalise, American Airlines alone will have 700 aircraft by 1995, and one large aircraft leasing firm estimates a worldwide market for 7,000 new air carrier aircraft through the turn of the century.

Aside from manufacturing needs, airlines need maintenance and technical personnel to keep present fleets flying as they wait several years for newly manufactured aircraft to be delivered. Eugene Conese, chairman of Greenwich Air Services, a Miami, U.S., aviation maintenance company, has warned that the price of maintaining the aging U.S. aircraft fleet could be much more than anticipated as a result of shortages in replacement parts - and skilled labor. He cited a recent report issued by the U.S. Federal Aviation Administration ordering repairs on 115 airliners at a cost of $142 million that he said eventually would affect more than 2,200 aircraft. "Many smaller carriers may find their maintenance capacities overwhelmed," he said, "Older aircraft represent a much higher proportion of the fleets of the smaller carriers, and some carriers may find it difficult to keep up with the work."

A further pressure faces employers as a significant segment of the work force approaches retirement age and adds to the shortage facing employers — and may provide opportunities for rapid career advancement for aviation technicians.

Scalise says that estimates run to a need for 50,000 additional mechanics and avionics technicians by 1996, not including effects of upcoming retirements. He cites, as evidence of the demand, that an alumnus from the class of 1979, who is head of quality assurance for the McDonnell Douglas MD11, has offered to hire as many graduates from the College of Aeronautics as are willing to relocate to the manufacturer's Long Beach, Calif., location.

In addition to airlines and manufacturers, the corporate aviation demand for aviation technicians is also booming, said Scalise. He pointed out Bristol Myers, Pepsico and Xerox as examples of companies with substantial aviation departments that come to the school for maintenance personnel.

"Unless the student opts to continue his education, which keeps him out of the job market, every graduate has a good job with excellent growth potential and a very decent salary," Scalise said, and noted that the school has had a 95 percent placement record since 1983. He added that the highest demand is for avionics technician graduates. "Even if we tripled our enroll-

ment, we wouldn't have enough of them," he said. The same applies to design students, Scalise pointed out, but he added that the airframe and powerplant technician is the mainstay of the college. All aviation technician specialties are an important part of aviation safety.♦

NEW PRODUCTS

Information on the following products, services and literature is published in the interest of improving aviation safety through a well-informed, better-equipped aviation mechanic.

Spill Response Materials Packaged

Designed to assist first-response teams in an emergency spill situation, the Slikwik Spill Response Pak contains a variety of absorbents, including the 12-foot hazardous waste SOC and hazardous waste pads (See photograph on cover.)

The contents of the package are able to absorb up to 17 gallons of liquid. A chemical-resistant suit, gloves and goggles are also included to protect employees, in addition to a hazardous spill sign and technical data sheets.

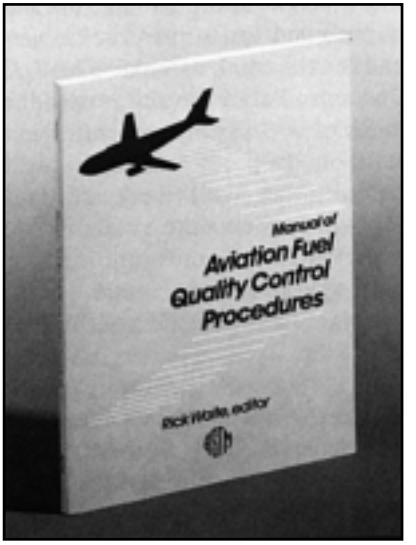
Lightweight and portable, the Pak is designed to fit into trucks, vans or even the trunk of a car. The Spill Response Pak is the newest product in Slikwik Sorbents' recent expansion of its product line for spill containment and leak control. Slikwik Sorbents are available in a wide variety of configurations, including absorbent pads, rolls, booms, Slikwik SOCs and Slikwik Drip Pans.

The absorbent materials are available from Slikwik Sorbents, P.O. Box 119, Maumee, OH 43537 U.S. (Telephone 419-893-5050).

Guidebook for Fuel Handlers

This fuel handlers' guidebook covers 33 procedures used to assess and protect aviation fuel quality. The book, titled *Manual of Aviation Fuel Quality Control Procedures, is* designed for airline employees, airport service companies, pipelines and oil companies that handle and distribute jet fuel. It represents the collective experience of the industries that developed these test techniques to assure that ground handling equipment is maintained and that contaminant-free fuel is delivered. In many cases, the field procedure or test method listed is a simplified version of the corresponding ASTM method or standard procedure.

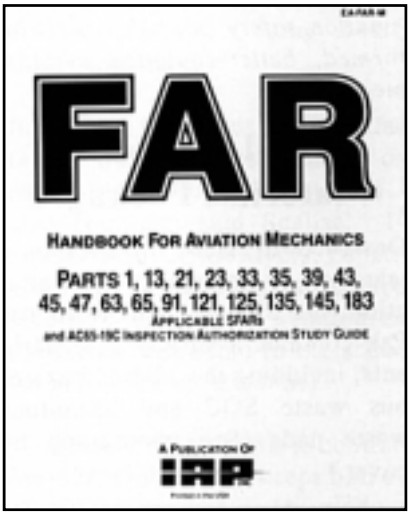
The guidebook is edited by Rick Waite and published by the American Society for Testing Materials (ASTM), a management system for the development of voluntary consensus standards for materials, systems and services, and the promotion of related knowledge.



Manual of Aviation Fuel Quality Control Procedures is available through: ASTM, 1916 Race Street, Philadelphia, PA 19103 U.S. (Telephone 215-299-5585; Fax 215-9779679). In Europe: American Technical Publishers, Ltd., 68a Wilbury Way, Hitchin, Herts, SG4 OTP England. (Telephone 0462-37933).

FAR Handbook Published for Aviation

Keeping up-to-date with all Federal Aviation Administration (FAA) changes to the Rederal Aviation Regulations that pertain to mechanics is the aim of the *Aivation Regulation Handbook for Aviation Mechanics*, recently released by IAP, Inc. The 560-page book includes all the agency's changes through May 15, 1989, and contains numberous FAR Parts for aviation technicians, as well as Prt 63 (Certification: Flight Crew Mebers Other Than Pilots) and Part 121 (Certification and Operations:



Domestic Flag, and Supplemental Air Carriers and Commercial Operators of Large Aircraft). Appli*cable Special Federal Aviation Regulations*

(SFARs) and the AC65-19C *Inspection Authorization Study Guide* are also included in the book.

In the United States, the handbook may be purchased for $15.95, plus $3 shipping and handling, as order number EA-FAR-M. Elsewhere, orders may be made through the nearest IAP distributor. Call the Sales Department at 1-800-4439250 (outside the Continental U.S. or inside Wyoming call 307-2663838) or write IAP, Inc., P.O. Box 10000, Casper, WY 82602-1000 U.S.

Invisible Gloves Protect Hands

According to the manufacturer, Sun Magic International will protect your hands with its Invisible Gloves, a hypo-allergenic pomade that is formulated to guard against irritation from grease, paints, adhesives, gasket sealers, and other materials.

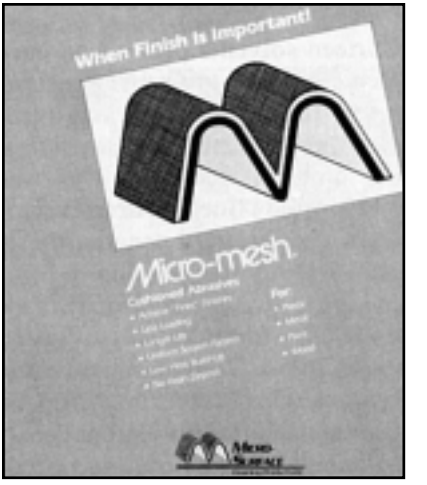
Complete protection is claimed against harmful skin effects from Skydrol, graphite, Zyglo and from exhaust, wheel and brake carbon.

One teaspoon of Sun Magic Model 1211 will cover hands completely, particularly cuticles and under fingernails, and will allow complete freedom of hand movement. It contains no silicone, therefore, it is not slippery and will not cause hands to heat up, says Sun Magic.

Contact: Sun Magic International, Inc., P.O. Box 63468 1, Margate, FL 33063 U.S. (Telephone 305-9798516).

Windshield Restoration For Improved Visibility

Scratched, discolored or damaged acrylics, gel-coated fiberglass and other plastic surfaces can be restored after a sanding followed by a Micro-Mesh series kit, claims Micro Surface Finishing Products, Inc. Available in five



kits for different size jobs, Micro-Mesh is a scientifically engineered series of cloth-backed, color coded, supercushioned abrasives which are

designed to help restore transparency and finish.

Generally applied by hand using a firm foam block as a backing, Micro-Mesh is used dry or wet with either water or a water-detergent slurry. It has an almost unlimited storage life between zero and 120 degrees Fahrenheit in a clean and dry environment.

More information can be obtained from: Micro-Surface Finishing Products, Inc., 1217 West Third Street, Box 818, Wilton, IA 52778 U.S. (Telephone 319-732-3240).

Anticorrosion Lubricant Incorporates Wax Layer

Thirteen solvents plus a wax have been combined to form a penetrating oil that dries to a clean protective film inside airframe structures. The product, Boeshield T.9® was developed by Boeing Aircraft engineers who wanted a penetrating oil with long-term corrosion protection. The initially thin viscosity allows the formulation to reach deeply into assembled components, dissolve minor corrosion, displace moisture and leave a resilient coating effective for years, according to PMS Products.

The product comes in a 12-ounce aerosol can for $7.95.

Contact: PMS Products, Inc., 607 St. Lucie Cresent, Stuart, FL 34994 U.S. (Telephone 407-286-7134).

Aircraft Insulation Inhibits Fire

A lightweight reinforced film used for blanket insulation covering in aircraft, Orcofilm AN-28, was introduced recently by the Orcon Corporation. Used in the airframe and aerospace industry, Orcofilm products allow fabricators to heat seal, sew or tape insulation blankets.

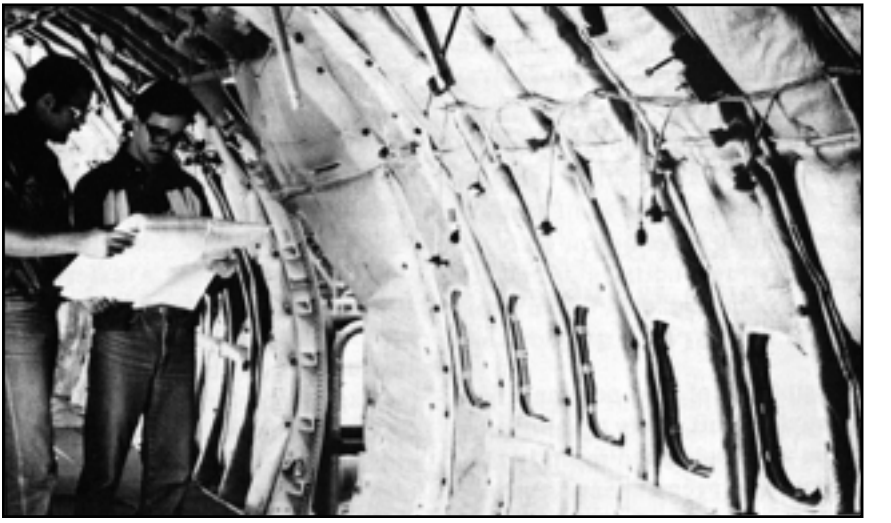
AN-28 is moisture-resistant and nonflammable in accordance with U.S.

Federal Aviation Regulation (FAR) Parts 25.853 and 25.855; and passes smoke density and toxic gas emission requirements according to Airbus Industrie Technical Specifications (ATS) 1000.001. Resistant to most chemicals, solvents and petroleum products, AN-28 has been specified and approved for use by Airbus Industries in the fuselage of the company's A320, A310 and A300 airliners.

For more information contact: Orcon Corp., 1570 Atlantic Street, Union City, CA U.S. 94587. (Telephone 415-489-4699). For Europe, contact: American Aviation, 180 Varick Street, New York, NY 10014-4699 U.S. (Telephone 212620-4500).

Masking Tape Resists Heat

A thin, flexible masking tape designed to resist high temperatures has been developed by DeWal Industries, Inc., a Saunderstown, R.I., producer of fluoropolymer tapes and films. Designed for thermal spray applications in the aviation industry, Fluorolin 407 is an aluminum foil and glass laminate combined with a high -temperature silicone pressure- sensitive adhesive. The material is claimed to have high peel adhesion; when a oneinch sample was tested on a steel panel it reportedly achieved an adhesion value of more than 55 ounces and an adhesion to backing in excess of 60 ounces.



Aircraft blanket insulation covering meets U.S. FAA fire safety rules.

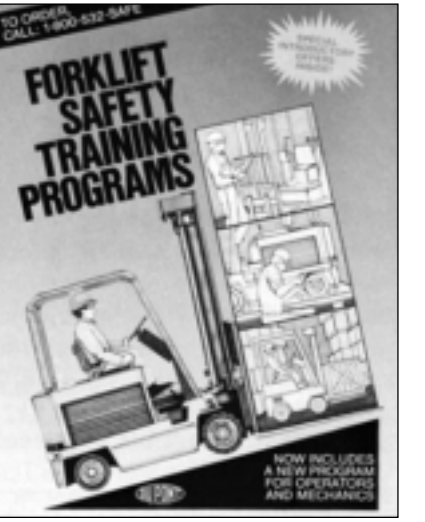
Fluorolin 407 also protects electrical cables and fuel lines that are subjected to rocket exhaust from space vehicles and missiles. The tape is under consideration for general aviation and several automotive under-the-hood applications, according to the manufacturer.

For more information on Fluorolin 407, contact: Dan Esposito, DeWal Industries, Inc., P.O. Box 372, Saunderstown, RI 02874 U.S. (Telephone 401-789-9736; Fax 401-783-6780).

Forklift Safety Training is Subject Of Brochure

Descriptions of one new and two updated forklift safety training programs were published recently in a DuPont Management Services brochure.

The new program, *Forklift Safety Inspections: A Team Effort,* includes a 40-minute videotape focusing on pre-use and maintenance inspections. Safety responsibilities for operators and maintenance personnel are stressed.



Forklift Truck: Operator Training Basic Course and *Forklift Truck: Operator Training Requalification Course,* are the updated programs, which, respectively, teach the fundamentals of safe forklift truck operation and offer a safety refresher for experienced operators.

Instructions on obtaining a preview package, complete with video and course material excerpts, is included in the brochure, as is a complete listing of components for each course, and ordering information.

Inquiries should be directed to: Forklift Operators Brochure, DuPont Management Services, Montgomery Building, P.O. Box 80800, Wilmington, DE 198800800 U.S. (Telephone 1-800532SAFE).

Redesigned Engine Washer Goes to The Aircraft

The Tronair engine compressor washer has been extensively redesigned and is fully portable for use on the aircraft parking ramp. The unit is mounted on a three-wheel cart with steerable eight-inch wheels.

Built-in air supply tanks can be recharged from shop air services and stainless steel fluid reservoirs are available in seven- and 12-gallon sizes. For operator convenience, full instructions are printed on a control panel near the valve levers; the panel is safer since the operator does not have to bend over charged tanks to read the directions. For additional operator safety, the washer incorporates a shutoff valve at the base of the spray wand.

The washer is part of a line of similar equipment. Details on it and other washers are available from Ron Dossat, Tronair, S. 1740 Eber Road,

Holland, OH 43528 U.S. (Telephone 419-866-6301; Fax 419-867-0634).

Aircraft Parts Catalog

Containing up-to-date information, a new aircraft parts catalog was recently completed by Cooper Aviation Industries, Inc. Consisting of more than 1,200 pages, the catalog features more than 135 product lines and thousands of individual components. It has one of the latest aviation hardware sections in the industry, according to the publisher.

For more information contact: Doug Dietz, Cooper Aviation Industries, Inc., 2149 E. Pratt Blvd., Elk Grove Village, IL 60007 U.S. (Telephone 312-364-2600).♦

FAA, FSF to Conduct Aging Aircraft Conference

In conjunction with the Flight Safety Foundation, the U.S. Federal Aviation Administration (FAA) will conduct its 2nd Annual International Aging Aircraft Conference October 3–5 at the Marriott Inner Harbor Hotel in Baltimore, Md., U. S.

The initial portion of the conference will consist of reports from the FAA, the National Aeronautics and Space Administration (NASA) and the aviation industry. The reports will reflect the status of activities and developments that have occurred since the initial FAA conference on the subject in June 1988.

Status reports will be followed by panel sessions on the subjects of metal fatigue, airframe loads, corrosion, non-destructive evaluation/ non-destructive inspection (NDE/ NDI) and human factors. There will be ample time for discussion on each topic, which is expected to provide the FAA with material that can be used in the agency's aging aircraft program. The final agenda will be distributed at the seminar and attendees will be provided with formal proceedings at a later date. For more information, contact Allen K. Mears at the Flight Safety Foundation.

Commuter Aircraft Aging Subject of Industry Report

The question of aging commuter aircraft was addressed recently by two affected U.S. industry groups. A summary report prepared by the Regional Airline Association (RAA) and the General Aviation Manufacturers Association (GAMA) states that a recent international conference found no significant safety problems with aging commuter aircraft. However, the paper recommended 23 specific actions that should be taken by both the industry and the Federal Aviation Administration to "ensure the highest levels of safety in commuter aircraft."

The report reflects the results of the International Conference on Aging Commuter Aircraft presented earlier this year by the two organizations. Discussions at the conference focused on propeller-driven aircraft with fewer than 60 seats in the commuter fleet more than six years old.

One of the significant recommendations was that manufacturers

should continue, on an expedited basis, the development and issuance of Supplemental Inspection Documents (SIDs) taking into account factors such as service experience, analysis, tests and engineering judgment. The coordination of SIDs should include input from individual operators well in advance of their implementation, according to the report. The report also states that the U.S. Federal Aviation Administration (FAA) should consider the adoption of SIDs, or portions thereof, through Airworthiness Directives (ADs) using the rulemaking process. (One general aviation user group, the Aircraft Owners and Pilots Association, opposes SIDs as too burdensome on private aircraft owners.)

In addition to supporting SIDs, the RAA/GAMA report makes recommendations in the areas of maintenance, manufacture, operation and certification of commuter aircraft. They address the need to review all existing service bulletins and FAA ADs, the issuance of updated advisory materials on corrosion and repairs, the need for improved training for inspectors, and the need for better communication and periodic meetings between operators, manufacturers and the FAA.

A steering committee composed of representatives from RAA, GAMA and the FAA will meet at six-month intervals to monitor the progress of actions taken.

The Proper Tool ...

The "Get a bigger hammer" syndrome is the classic reference to tool abuse — or overuse. But hammers, though misused more often than they should be, rarely make their presence felt in the wrong places as often as giant slip-joint pliers do. These large water pump and vise-grip pliers are usually listed as required tools and do work effectively on more situations than almost any other type of tool.

However, they are far from do-all tools and can lead to safety problems if misused, particularly if used on smaller nuts. The main problem is that a healthy grab on a tight nut leaves tell-tale, damaging tool marks that can progress into gouges if the plier jaws slip before the required torque is reached.

One instance where use of the wrong tool can lead to operational aircraft problems is the use of water pump pliers on oxygen supply pressure regulator assemblies. When these nuts get bitten by the teeth of the oversize pliers, they become chewed up with gouges and rounded flats. The structural integrity of nuts can be adversely affected

by deep gouges, and oxygen regulator leaks can result. In this particular case, the job can best be done using a I 1/8-inch wrench firmly applied to seat this nut or compression fitting. In a pinch, an adjustable wrench may be used as a substitute; do not use pliers.

Avoid the Pressure

It may be traditional for printers to have ink in their veins, but it is not healthy for aviation mechanics to have Skydrol coursing through theirs. Here are two instances where unsafe practices resulted in painful injuries.

A mechanic was searching for a pinhole hydraulic leak using his bare hands to feel around the hydraulic lines. He ran his hands up and down the lines. He found the leak — or, rather, the leak found him. A thin stream of pressurized fluid, 3,000 psi worth, acted just like a hypodermic needle and forced hydraulic fluid into his finger and blew it up to an unusual size.

Another mechanic was applying paint using a 2,000-psi spray gun when the unit clogged. To check it out, he placed a finger in front of the nozzle and pulled the trigger. The pressurized paint was forced through the skin and into the finger tissue. The finger subsequently had to be surgically amputated.♦

MAINTENANCE ALERTS

The following information on accidents and incidents aims to provide an awareness of problem areas through which such occurrences may be prevented in the future.

Jammed Elevator?

A four-engine East German Ilyushin IL-62 was taking off with 113 occupants from East Berlin's Schonefeld Airport bound for Moscow. The jet airliner had attained takeoff speed but the pilot apparently was unable to raise the nose to the liftoff attitude.

The aircraft ran off the end of the runway at full takeoff speed, hit a mast and skidded across a road before hitting a metal water tank, which severed the left wing and started a fire. The aircraft came to rest in a cornfield with the tail section broken off but the right wing intact. Most of the occupants, including the 10-member crew, were able to escape using emergency chutes before the flames engulfed the aircraft. Virtually nothing remained of the fuselage. Among 17 immediate fatalities was a farmer who had been working in a field adjacent to the runway. Forty-six of the survivors were injured. Many suffered serious burns and were hospitalized.

A preliminary report by investigators issued a week after the accident indicated that the aircraft may have failed to take off because the elevator had locked at the moment of liftoff, preventing the pilot from raising the nose to the takeoff attitude. The aircraft was 10 months old.

Look Before You Drill

The pilot of the Piper PA-32 had completed all of the required preflight and start-up checks and headed out for the takeoff.

As the aircraft was being taxied onto the active runway, the nose gear suddenly collapsed. The aircraft pitched down, the propeller struck the runway surface and the three occupants evacuated the aircraft without injury.

The nose gear mechanism was examined after the aircraft had been recovered. Inspection revealed that the downlock hook had failed, which allowed the gear to retract. It was found that the structural failure of the hook was precipitated by an unauthorized hole that had been drilled in it.

A check into the maintenance records revealed that the hole may have been drilled inadvertently while an earlier repair was being made to the nose gear bay wall.

Down Gently with The Nose

The twin-engine piper PA-34 was returning from a business trip with a pilot and two passengers aboard.

The touchdown was uneventful and the pilot lowered the nose gear to the pavement. Soon after he applied the brakes, however, the nose of the aircraft was seen to lower farther, the windshields lifted up from their mountings and the propellers struck the runway. The pilot braked the aircraft to a halt and the three occupants departed with no problem.

According to the maintenance organization that accomplished the repairs later, the top mounting of the nose gear strut had been overstressed and failed. When the strut came loose, the top attachment pushed up through the fuselage, forcing both of the windshields to separate from their mounts.

Sputter, Sputter ...

An Avro 504K belonging to an antique aviation collection suffered partial engine failure while returning from a local flight. The pilot was unable to reach the airport and force-landed safely in a field.

A Rollason D62 Condor was towing a glider for a local flight when the

engine failed. The glider pilot released from the tow but the Condor went into a spin and crashed in a field near the airstrip. The aircraft was damaged beyond repair and the pilot, the only occupant, was seriously injured.

A Fairchild 24 had just taken off with two persons aboard when the engine quit. The pilot made a forced landing in a field adjacent to the airport. The aircraft sustained substantial damage to the landing gear and the nose but there were no serious injuries reported to either occupant.

A Cessna 152 was departing on a local flight with two persons aboard when the engine began to vibrate. The pilot made an emergency landing in a field near the airport. No one was injured and the aircraft sustained minor damage to one wing.

Nose Gear Collapses On Mechanic

A Fokker F.27-200 with 29 passengers and a crew of four was approaching to land when the nose gear lowered but did not give a locked indication. The pilot made a successful landing and stopped on the runway while a maintenance technician was sent to inspect the gear mechanism.

While the mechanic was at work in the nosewheel bay, the gear mechanism collapsed on him, resulting in fatal injuries. A team of technicians was sent to repair the aircraft and clear the runway. The main runway was blocked and an alternate runway was used by F.27s, but two Boeing 737 flights overflew the airport during recovery operations.

Helicopter Loses Power Over Water

The Bell 206L Long Ranger was carrying six persons back to shore from an oil field rig 20 miles off the southeast coast of Trinidad, West Indies. The aircraft developed engine trouble and began to lose power. The altitude gradually decreased and when a water landing became imminent, the pilot deployed the helicopter's inflatable pontoons. The aircraft was landed safely on the water and the occupants, their life jackets already on, boarded a life raft. They were picked up by two other helicopters an hour later. There were no injuries.

Shimmy on Landing

The Cessna Model 208 Caravan I had just touched down without incident. During the rollout, however, the single-engine turboprop experienced severe shimmying of the nosewheel assembly.

Later examination revealed that the shimmy dampener had failed and that there were cracks in the lower portion of the engine mount ring near the left and right attachment points to the nose gear.

This problem was not unique, since the U.S. National Transportation Safety Board (NTSB) had received reports from other operators of this model aircraft describing similar occurrences of cracked engine mount rings that resulted from nose gear shimmying. According to the NTSB, if the shimmy induced cracks go undetected and are allowed to develop through the engine mount ring, they could induce a phenomenon known as "whirl mode" that could result in separation of the engine. (Whirlmode is a type of flutter instability that involves gyroscopic, wobbling motion of the propeller-nacelle -powerplant system surrounding a flexible engine mount.)

According to the NTSB, the original shimmy dampeners on this model aircraft have had an extensive history of failure, with the aircraft manufacturer's service records showing 250 failures of components and 17 reports of cracking in the lower portion of the engine mounts near the attachment points of the nose gear. A service bulletin (SB) was issued last year (Cessna SB No. CAB88-14, Shimmy Dampener Improvement) that described a new, improved shimmy dampener (part number 2643090-1) for the Caravan I Models 208, 208A and 208B. The bulletin recommends that the improved dampener be installed within the next 200 hours or during the annual inspection or an equivalent inspection program.

Since neither the service bulletin nor the aircraft maintenance manual address the potential problem of cracked engine mount rings that can result from shimmy dampener failure, and considering the number of failures of the older dampeners, the NTSB made two recommendations. The Board recommended that the U.S. Federal Aviation Administration (FAA) issue an Airworthiness Directive (AD) requiring inspections for cracks in the lower portion of the engine mount ring adjacent to the nose gear attachment points at the next 100hour or annual inspection and installation of the improved shimmy dampener. It also wanted the FAA to require Cessna to specify inspections for cracks whenever nose gear shimmy occurs.

Torching on Takeoff

The DC-10 was not accelerating normally during the takeoff roll. It felt to the flight crew like the antiskid was applying brakes. At 120 knots, the amber EGT warning light on Number 2

engine illuminated and the captain aborted the takeoff.

After the aircraft was successfully stopped and had cleared the runway, control tower personnel reported that the Number 2 engine had been torching during the takeoff roll. A flight attendant and several passengers reported banging noises coming from the engine. Maintenance personnel replaced the Number 2 engine and the antiskid box.

The Squeaking Wheel

A loud grinding noise was heard emanating from the nose gear area when the Boeing 727 was being pushed back from the gate. Ground personnel checked the area and reported nothing amiss, and the aircraft continued on to the runway. However, while the aircraft was taxiing, the noise was heard again, this time accompanied by a vibration in the nose wheel steering.

The crew returned the aircraft to the gate where maintenance personnel investigated the problem. They found the linkage dry of grease. The nose was jacked up and the nose gear and steering was greased.

Expensive Oversight

The DC-8 was climbing through FL230 when the second officer reported a loss of oil from the Number 2 engine. All of the circuit breakers were checked by the crew and were found in place. When the oil pressure fluctuated, it was decided to shut down the engine and land. Since the fuel burn had not been sufficient to bring the aircraft weight down to landing limits, 42,000 pounds of fuel was dumped prior to landing.

After an uneventful landing, it was found that the starter fill cap was off. Maintenance personnel replaced the cap and the filter.

Recurring Problem

After the Boeing 707 took off from Addis Ababa, Ethiopia, the landing gear failed to retract. The pilot returned to the airport where he made one go-around and landed. Maintenance personnel rectified the fault and cleared the aircraft for flight.

During the second takeoff, the gear again failed to retract. The pilot again returned to the airport and made a fly-by before landing. This time, however, the brakes reportedly failed and the crew was unable to stop the aircraft. it ran off the end of the runway and rolled down a slope before it came to rest. The front and rear sections of the fuselage were damaged and the nose gear was torn off. There were no personnel injuries reported.♦