

Working Group on Professional Standards For U.S. Technicians Submits Draft for Review and Comment

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Editorial Coordinator

In July 1993, the U.S. Federal Aviation Administration (FAA) called together aircraft maintenance industry representatives to discuss a proposal to improve the image and professional stature of the aviation maintenance technician in the United States. Speaking for the FAA was Fred Leonelli, manager, Aircraft Airworthiness Division. Leonelli proposed an industry program to

maintain high professional and ethical standards for aviation maintenance technicians.

Leonelli noted that the FAA licensing requirements (U.S. Federal Aviation Regulations [FARs] Part 65, Subpart D) establish only minimum certification standards for technicians. They include no continuing education requirements, no higher

qualification standards for specialized skills and no performance or ethical standards for technicians. He added that the FAA does not plan to incorporate such requirements into the licensing regulations, but the FAA would support an industry effort to create an accreditation program for airframe and powerplant (A&P) mechanics.

The aviation maintenance profession is one of the most closely regulated and inspected occupations in any career field. An A&P mechanic has tremendous legal and ethical responsibilities, yet the aviation maintenance technician is considered “semi-skilled labor” under U.S. government job classification standards. Many people not familiar with the industry associate the word “mechanic” with an image of a worker who is greasy, dirty and probably not too bright. The bumbling aviation mechanic known as Lowell on the currently popular U.S. television show “Wings” is a typical example of how many people view the profession.

In fact, the current FAA mechanic training school requirement totals 1,900 hours of instruction, whereas most four-year college degree programs total only 1,680 hours of classroom time. Despite the public’s perception, to be considered a professional requires training, recognition by an industry association or

group and high ethical and performance standards.

It was the consensus of the group attending the 1993 meeting that the proposal to create formal standards that go beyond licensing requirements is a worthwhile effort, and the Professional Aviation Maintenance Association (PAMA) accepted responsibility for coordinating the project. The following organizations with an interest in the aviation maintenance community are participating: PAMA, Flight Safety Foundation, Air Transport Association of America, International Association of Machinists and Aerospace Workers, Helicopter Association International, Aircraft Electronic Association, National Aviation Trades Association, National Business Aircraft Association, Aviation Technician Education Council and several trade publications.

The coalition is working to establish a framework by which qualified mechanics and technicians may be recognized as professionals of the highest degree. Ethical and performance standards will be voluntary. When the program is in place, no individual will be obligated to join an accrediting organization or required to meet those standards. The program is envisioned as similar to that for accountants, who must obtain additional qualifications and be

certified as possessing them to be recognized as a Certified Public Accountant (CPA).

When the program is in place, the committee will be disbanded and replaced by a nonprofit organization to manage the program, maintain the standards and administer the accreditation system.

Comments Requested About Proposed Standards

Following is a draft of the program concept developed by the working group. Any part of it can be changed before its adoption. Comments will be closely reviewed by the working committee and a second draft prepared for industry review in October 1994. Following additional comments and revisions, a final draft will be prepared for submittal to the FAA on

January 5, 1995. The final standards program is expected to be published in industry journals and newsletters by March 15, 1995.

Send your comments to:

Aviation Maintenance Professional Standards Coalition

c/o PAMA
500 Northwest Plaza, Suite 1016
St. Ann, MO 63074-2209

or

c/o Robert Feeler
Flight Safety Foundation
2200 Wilson Blvd., Suite 500
Arlington, VA 22201-3306

Editorial note: Material used in preparing this article was provided by Chris Leonard, PAMA National Technical Representative.

Draft of [U.S.] Professional Standards for Aviation Maintenance Technicians

Goals and Objectives of the Association

- To unite professional Aviation Maintenance Technicians
- To promote and maintain high professional standards of practice
- To assist in the maintenance of standards for entry to the profession
- To promote the interests of Aviation Maintenance Technicians
- To develop and improve aviation education
- To encourage mutually beneficial communications and relations among Aviation Maintenance Technicians of differing nationalities

Conditions of Membership

- Membership in the Association is voluntary.
- By accepting membership, an Aviation Maintenance Technician assumes an obligation of self-discipline above and beyond the requirements of the FAA and the FARs.

Rights and Privileges of Membership in the Association

In recognition of a member's demonstrated professional knowledge, skills and judgment in aircraft or component maintenance, the Association grants the member the right to:

- Represent that he or she possess special knowledge, skills and judgment in aircraft or component maintenance and has the required competence, integrity, objectivity and understanding of the U.S. Federal Aviation Regulations (FARs)
- Represent that he or she continues to improve professional knowledge in the field of aviation
- Represent that he or she complies with the Standards of Ethical Conduct for the Association

The Requirements Met by the Member

The Association offers an Aviation Maintenance Technician certification to Aviation Maintenance Technicians who demonstrate their professional knowledge, skills and abilities in aircraft maintenance. The membership is granted to those who meet the standards set forth by the Association. These include:

- Educational achievement
- Good moral and professional character
- Compliance with the Standards of Ethical Conduct for Aviation Maintenance Technicians
- Successful completion of [such examinations as may be required]
- [Such period of experience as may be required]

The Responsibilities of the Member

The right to use the certification, once it has been granted, is predicated on the individual meeting the continuing obligations established by the Association. These obligations include:

- Continuing Education — To keep their certification in good standing, members must participate in at least [] hours of continuing education each year and report this activity to the Association.
- Annual Fee — Members are required to maintain membership in the Association and support the Association through payment of an annual fee to be set by the Board of Directors.
- Standards of Ethical Conduct — Members must comply with the Standards of Ethical Conduct issued by the Association.
- FAR Compliance — Members are required to be aware of all FARs applicable to their professional duties.

Failure to meet the annual fee and/or continuing education obligations will result in action by the Association to classify the member as Suspended or Former. While classified as a Suspended or Former member, the individual cannot use the designation of member in any manner. Violation of the Standards of Ethical Conduct will result in sanctions against the member.

Suspension

If either the membership fee requirement or the continuing education obligation is not met, membership will be suspended for one year. The suspension for nonpayment of the annual fee can be removed by its payment during the suspension year, but it will be considered as payment for that year, with the initial expiration date. The continuing education suspension can be removed by meeting the requirement for the prior year and the suspension year, a total of [] hours.

Classification as Former Members

If the annual Association fee of [] is not paid during the suspension year, the member will be classified as a Former member, and the certificate will

be recalled by the Association. If the continuing education requirement is not brought up to date during the suspension, the member will be classified as a Former member and the certificate will be recalled by the Association. A member who has been classified as a Former member can petition the Board of Directors for reinstatement. The petition for reinstatement must be accompanied by evidence that the member has met the requirements for a member in good standing of the Association and that [] hours of continuing education have been completed in the past year.

Violation of the Standards

A member who has been found by the Board of Directors and the Association Ethics Committee to have violated the Standards of Ethical Conduct will be subject to sanctions. The sanctions can range from a warning to permanent revocation of the certificate. The sanctions will be levied only after investigation of the charges of an alleged violation. The investigation will provide the member with an opportunity to refute the charges.

Organization and Procedure

General

The organization of the Association shall include the members, the Board of Directors, officers and committees.

The Board of Directors may from time to time organize the committees and staff of the Association into divisions and may adopt rules of procedure and operating policies for such divisions.

Membership

The rights and powers of the membership of the Association shall be as defined herein:

- Attendance at Meetings — Every member shall have the privilege of attending all meetings of the Association.
- Voting Rights — Every member shall be entitled to one vote in person, when in attendance, upon all questions brought before duly

called meetings of the Association and by mail ballot for the election of officers.

- Certain Positions to Be Held Only by Members — Only members of the Association may serve as officers of the Association or as members of the Board of Directors, or as any committee member, except for the secretary and representatives of the public, who need not be Association members to be members of the Board of Directors.

Board of Directors

The governing body of the Association shall be the Board of Directors.

- Composition of the Board of Directors
- Powers
- Committees

Senior Committees
Permanent Committees, Boards and Divisions
Nominations Committee
Professional Ethics Committee
Education Committee
Joint Trial Board
Board of Examiners

Financial Management and Controls

The Board shall have the authority to prescribe such procedures as it deems appropriate to an adequate budgetary and financial controls.

- Audit
- Indemnification
- Dues

The Board shall determine the annual dues that shall be paid by each member in accordance with such classifications as it deems appropriate, and may require dues of a different amount for each class created.

Dues shall be payable on or before the first day of each fiscal year of the Association or in such other manner as the Board shall prescribe. For new members, dues shall be apportioned to the end of the fiscal year.

No dues shall be paid by members of the Association while members are engaged in military service of the United States or its allies during war. Individual members may be excused from payment of dues for reasonable cause by the treasurer in accordance with an established policy.

Meetings of the Association and the Board

Meetings of the Association

- **Regular Meetings of the Association** — There shall be a regular meeting of the Association within three months after the close of the fiscal year, on a date to be fixed by the Board of Directors. This meeting shall also be known as the annual meeting of the Association.
- **Special Meetings of the Association** — The Chairman of the Board shall call special meetings of the Association when so requested by the Board of Directors, or upon written request of at least 5 percent of the membership of the Association. No business shall be transacted at a special meeting of the Association other than that for which the meeting has been convened.
- **Schedule of Meetings**
- **Notice of Meetings of the Association** — Notice of each meeting of the Association, whether regular or special, shall be mailed to each member of the Association, at his or her mailing address as shown on the official records of the Association, at least [] days prior to the date of such meeting.

- Resolution of the Membership by Mail Ballot — A majority of the members of the Association, assembled at any duly called meeting of the Association at which a quorum is present, may direct that the Chairman of the Board submit any question to the entire membership for a vote by mail. Any resolution enacted in such a mail ballot by two-thirds of the members voting shall be declared by the Chairman of the Board a resolution of the membership and shall be binding upon the Board of Directors, committees, officers and staff. Mail ballots shall be valid and counted only if received within 60 days after the date of the mailing of ballot forms.

General Provisions Governing Meetings

- Quorum — [] members of the Association shall constitute a quorum for the transaction of any business duly presented at any meeting of the Association. [] members of the Board of Directors shall constitute a quorum of the Board.
- Rules of Parliamentary Procedure Applicable — The rules of parliamentary procedure contained in *Robert's Rules of Order Revised* shall govern all meetings of the Association and Board of Directors.

Board of Directors

The Board of Directors shall be composed of:

- The Chairman and Vice Chairman of the Board of Directors
- Immediate Past Chairman, President, Treasurer and Secretary of the Association
- Representatives of the public who are not members of the Association

Officers

Term of Office — The Chairman and Vice Chairman of the Board of Directors and the Board Vice Presidents shall each be elected annually. Only the treasurer may succeed himself in the same office after serving a

term of one year. The term of the President and Secretary shall be determined by the Board of Directors.

Chairman of the Board — Shall preside at meetings of members of the Association and the Board of Directors. He shall appoint committees and boards. He shall act as spokesman for the Association and appear on its behalf before other organizations.

Vice Chairman of the Board — Shall be the Chairman-nominee of the Board of Directors and shall preside in the absence of the Chairman at meetings of the Association and the Board of Directors. He shall familiarize himself with the duties of the office of Chairman and shall perform such other related duties as may be assigned to him by the Chairman.

Board Vice Presidents — Duties shall be those usually appertaining to the office of vice president. One of the Board Vice Presidents designated by the Board of Directors shall preside at meetings of the Association in the absence of the Chairman and the Vice Chairman of the Board.

Treasurer — Shall familiarize himself/herself with the financial policies and accounting procedures, controls, and financial reporting of the Association and shall consult with the President and the independent auditors on such matters, on which he shall advise the members of the Board of Directors and the President.

President — Shall have full responsibility for the execution of the policies and programs of the Association, act as spokesman for the Association and perform such other services as may be assigned to him by the Board of Directors.

Secretary — Shall have the usual duties of a corporate secretary and shall perform such other related duties as may be assigned to him by the President.

Committees

Committees shall be as follows: Nominations Committee, Professional Ethics Committee, Joint Trial Committee, Certification Advisory Committee and Education Committee.

Standards of Ethical Conduct for Aviation Maintenance Technicians

Aviation Maintenance Technicians have an obligation to the companies they serve, their profession, the public and themselves to maintain the highest standards of ethical conduct. In recognition of this obligation, the Association has set forth the following standards of ethical conduct for its members. Adherence to these standards is integral to achieving the objectives of the Association.

Competence

Members have a responsibility to:

- Maintain an appropriate level of competence by ongoing development of their knowledge and skills.
- Perform their professional duties in accordance with relevant laws, regulations and technical standards.
- Not undertake any assignment that they cannot reasonably expect to complete with professional competence.

Objectivity

Members have a responsibility to:

- Refrain from engaging in any activity that would prejudice their ability to carry out their duties ethically.
- Refuse any gift, favor or hospitality that would influence or would appear to influence their actions.
- Refuse to engage in or support any activity that would discredit the profession.

[end]

Be Careful When Relying on A Manufacturer's 'Authorization'

A U.S. air taxi operator certificated under U.S. Federal Aviation Regulations (FARs) Part 135 was cited by the U.S. Federal Aviation Administration (FAA) for operating two propeller governor units beyond the approved time between overhaul (TBO). The error was discovered in the course of an FAA surveillance visit. The operator was cited for a violation of the FARs and assessed a US\$4,000 civil penalty.

When notified of the oversight, the operator took the aircraft out of service and ordered replacement units from the manufacturer. The manufacturer could not supply overhauled units for two weeks, so the operator asked if it might operate the units beyond the scheduled overhaul period of 1,800 hours. The manufacturer's customer service representative responded with a letter authorizing the operator to disregard the TBO for a period of 30 days, and the operator returned the aircraft to service while awaiting the replacement units.

When this "authorization" came to the attention of the FAA inspector,

the operator was advised that the FAA would not recognize the extension letter. The airplane was again grounded until overhauled units were available.

The operator appealed the citation on the basis that the manufacturer had authorized the TBO extension. This appeal was eventually lost and the FAA prevailed, when the violation was upheld by the FAA administrator.

The outcome of the case turned on the meaning of the term "maintenance instruction" in FARs Part 135.421(b), according to the administrator. This section requires Part 135 operators to follow either a manufacturer's recommended maintenance program, or a program approved by the administrator. The operator argued that the manufacturer's extension letter was a maintenance instruction and that he was therefore authorized to operate beyond the originally published TBO. In upholding the finding of a violation, the administrator said that "maintenance instructions are general instructions that manufacturers are required to furnish to all operators, and that operators in turn are required to obey. Maintenance instructions do not include either 'instructions' issued to particular operators, or optional 'instructions.'" ♦

MAINTENANCE ALERTS

This information is intended to provide an awareness of safety problem so that they 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.

Air Taxi Accident Uncovers Improper Work During Cabin Refurbishment

In April 1994, the U.S. National Transportation Safety Board (NTSB) investigated a fatal accident of a Piper PA-31-350 operating as a non-scheduled air taxi under U.S. Federal Aviation Regulations (FARs) Part 135. The probable cause has not yet been determined; however, the NTSB discovered several deficiencies in the accident airplane that could affect the airworthiness of other airplanes or their occupants' postcrash survival.

Investigators found that the safety belts had been improperly installed on several of the passenger seats. This aircraft, and several similar aircraft operated by the same air carrier, had recently been refurbished by a shop specializing in

aircraft seat reupholstery, interior refurbishment, and exterior painting work. This agency was not certificated as a repair station, although the president and two technicians did possess FAA airframe and powerplant (A&P) certificates, and the completed work was signed off by one of these individuals.

It was found that the repair agency had used incorrectly sized attachment bolts on the seat frames and that some of the seat-belt attachment bolts had no associated bushings to allow the belts to swivel on the bolts. Nonstandard parts were found in the agency's parts bins, and employees acknowledged using the substandard parts and techniques during the refurbishment of airplane interiors. The individual primarily assigned to complete the reassembly of newly reupholstered seats was not certificated and had received no training on the disassembly and reassembly of airplane seats. Further, he was apparently unaware of maintenance manual instructions and the need to use only the hardware specified.

The A&P technicians who signed off the work orders acknowledged that they had not examined the work performed on the safety belt attachments, the reassembly of seats and

the installation in the accident airplane. Manufacturers' manuals and service bulletin files for some airplanes that had been refurbished or repainted by this shop were found to be out of date by as much as 23 years. Company personnel also acknowledged that control surfaces had not been rebalanced as required following repainting.

The records on file at this agency indicated that it had refurbished or repainted 12 to 15 airplanes per month during the past 20 years. It is therefore possible that 2,500 to 3,500 airplanes could have been reworked with improper hardware or techniques in refurbishing or repainting.

As a result of these findings, the NTSB has issued a Safety Recommendation calling for the U.S. Federal Aviation Administration (FAA) to take immediate action to identify airplanes that have been repaired, refurbished or repainted by Harrington Industries, of Aiken, North Carolina, U.S., and have them inspected to ensure that seats and safety belts are properly assembled with approved hardware, and flight control surfaces inspected to verify that balance is within tolerance limitations.

Any technician maintaining an airplane that has been worked on by Harrington Industries should

contact the local FAA office for additional information.

Although this NTSB Safety Recommendation pertains only to this company, the incident once again illustrates the importance of being extremely selective in choosing a contract maintenance facility and monitoring it to see that the work is performed according to the manufacturer's specifications.

Nosewheel Attachment Structure Damage on Boeing 767

The U.S. National Transportation Safety Board (NTSB) has investigated three similar accidents involving Boeing 767 airliners. All three accidents occurred during landing, when the nosewheel struck the runway after normal touchdown on the main landing gear. In each case, the airplane fuselage structure and nosewheel wells were damaged. These accidents occurred in South Korea in 1992, in Brazil in 1992 and in Poland in 1993.

These accidents occurred during the "derotation" phase of the landing when the pilot lowered the nose to the runway.

The vertical velocity (rate of descent) at the center of gravity (CG) of the

airplane varies during and after touchdown as the main landing gear strut strokes, rebounds and possibly strokes again. In each case, the vertical velocity measured at the CG during touchdown was not sufficient to damage the airplane. However, if the pilot forced the nose down aggressively after main gear touchdown, the large nose-down pitch rate combined with the vertical velocity at the CG, resulting in excessive loads in the forward fuselage and nose-gear attachment structure.

In the three accidents cited, the damage varied but involved the nosewheel-well bulkheads and skin panels, upper crown skins and some fuselage frames, and in one instance the nose-gear structure.

The NTSB said that the accidents all involved significant crosswinds, and

this may have prompted the pilots to put the nose gear aggressively onto the runway to give them more directional control. The manufacturer has determined that pilot techniques need to be refined with emphasis on preventing excessive derotation rates during landings with crosswinds or slippery runways.

Although this specific recommendation pertains only to Boeing 757/767 airliners, technicians should also be alert for damage in other high-performance aircraft with a relatively long moment arm from the main gear to the nose gear. It should be recognized that such damage could occur even though a "hard landing" has not been reported. Walk-around checks during turnarounds or layovers should include an inspection of the wheel well structure and fuselage structure in the nosewheel area.

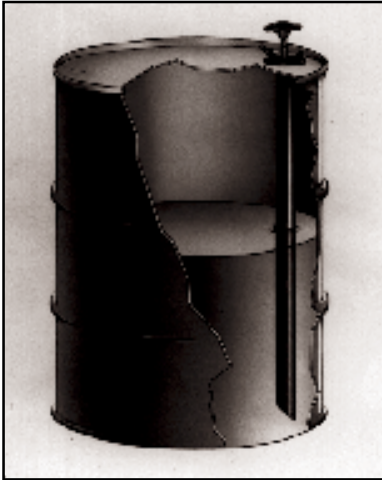
NEW PRODUCTS

Barrel Pallet and VaporLock Closures Aid Hazardous Material Storage

U.S. Environmental Protection Agency (EPA) regulations require that containers of hazardous or toxic chemicals have secondary spill containment provisions suitable to catch and retain any leakage from the container, and that volatile organic compounds (VOCs) do not escape into the atmosphere. Ultra-Tech International Inc. has introduced two products intended to address these needs.



UltraSpill Pallet provides secondary spill containment.



UltraTech's VaporLock Closure

The manufacturer of the Ultra-SpillPallets states that these pallet/containers come in 2- or 4-drum capacities and cover designs to allow convenient access to stored drums in indoor or outdoor locations. The container/pallet is said to be capable of catching and retaining any leakage or spillage from the drums stacked on the unit.

The Ultra-VaporLock Closure is said to provide an easily installed bushing that threads into the barrel bung. The "T" handle then threads into the installed bushing to seal

against leakage of VOCs, even if the barrel should be overturned onto its side.

For more information contact: Ultra-Tech International, 11711-2 Phillips Highway, Jacksonville, FL 32256, U.S. Telephone (904) 292-1611, fax (904) 292-1325.

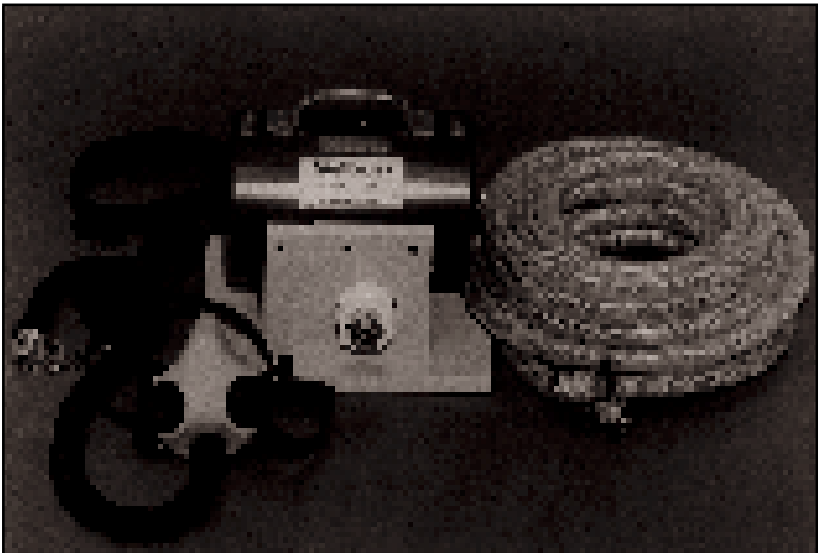
Low-cost Respirator Available for Use in Hazardous Atmospheres

Fastech Corp. has introduced a low-cost unit designed to provide fresh air needed when working in areas where paints, solvents or other sources of toxic fumes are present. The Hobbyair 1

respirator system includes a motor, facemask, couplings and 40 feet (12.2 meters) of air supply delivery hose.

According to the manufacturer, the unit weighs only 30 pounds (13.6 kilograms) for portability. The face mask is said to be comfortable to wear for extended periods while providing clean and cool air without worry of breathing-in dangerous chemical fumes, including isocyanate gas and other sources of toxic chemicals against which an air-purifying face mask alone is not fully effective.

For more information, contact: Fastech Corp., 24 Center Drive, Gilberts, IL 60136, U.S. Telephone (708) 836-1633.



Hobbyair 1 respirator system by Fastech Corp.



Veribor Hand Vacuum Cups manufactured by Anver Corp.

Vacuum Handles Designed to Aid in Lifting Sheet Metal And Large Panels

Lifting and handling sheet metal, large control surfaces or cowling panels is frequently an awkward task for a technician. The item often has sharp edges or is too large to grasp around the edges. Anver Corp. believes its hand-held vacuum lifters provide a solution to such problems and reduce exposure to back injuries and cut fingers.

Anver Veribor Hand Vacuum Cups are lightweight and compact, with dual lever actuators which, they say, allow the user to attach the handles to any smooth surface when needed. The handles are said not to mark or distort materials, while providing a comfortable grip at any suitable location. The handles are rated at more than 100 pounds (45 kilograms) horizontal and 50 pounds (22.6 kilograms) vertical capacity.

For more information, contact: Anver Corp., 15 Kane Industrial Drive, Hudson, MA 01749, U.S. Telephone (508) 568-0221.

Digital Protractor Convenient to Use

Kell-Strom Tool Co. has introduced a digital protractor that is capable of indicating any angle in a 360 degree circle with accuracy of ± 0.1 degrees. The unit is said to have several features that enable it to be used in a number of aircraft applications.

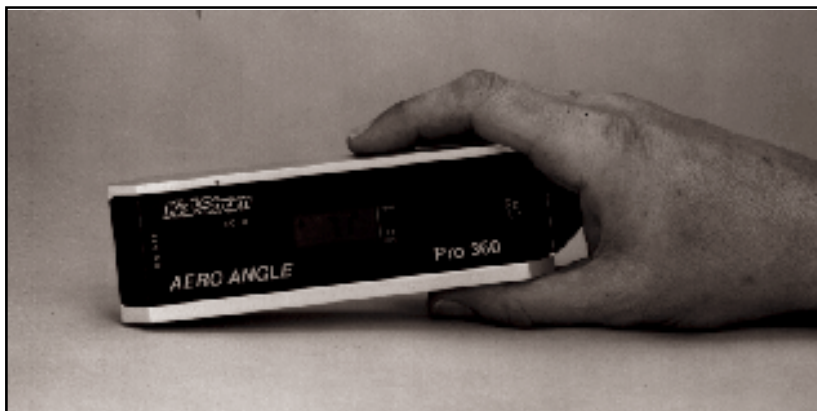
According to the manufacturer, the Pro 360 can be:

- Operated as a standard level where 0.0 indicates true level.

- Used as a relative motion indicator by using the ALT ZERO button to set the neutral position as zero and then reading the range of travel or motion in degrees from neutral.

Kell-Strom states that the unit does not have to be returned to the manufacturer for recalibration. It says that the user can test and recalibrate quickly on site and without any special fixtures.

For more information, contact: Kell-Strom Tool Co. Inc., 214 Church Street, Wethersfield, CT 06109, U.S. Telephone (203) 529-6851. ♦



Pro 360 digital protractor introduced by the Kell-Strom Tool Co.