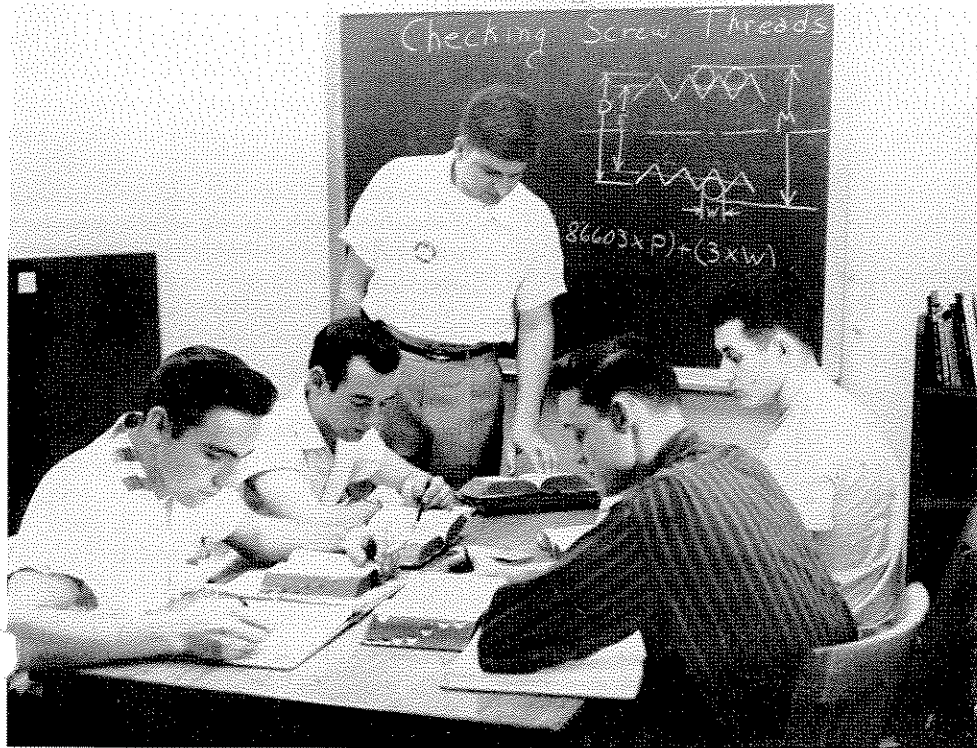


MELPAR-A-GRAPH

MELPAR, INC. • A SUBSIDIARY OF WESTINGHOUSE AIR BRAKE CO.

Volume 3, Number 8

July, 1958



FINAL REVIEW before taking exams, signalling the completion of the 13-week classroom phase of the Machinist training course, was the order of business as this picture was made at the Arlington division. Most recent students were, seated left to right, L. V. Brewer, J. M. Bender, W. G. Sorrell and D. F. Crockett. Instructor J. A. Herberger is standing. The "on the floor" phase of the training varies in duration with the student's individual capability.

Photo by Tatroe

PLANS FOR REVISION OF CREI COURSE ANNOUNCED

Plans for revision of the 'in plant' Basic Electronic Technician Course, given under the tutelage of the Capitol Radio Engineering Institute, and covered under the terms of Melpar's Tuition Reimbursement Plan were announced this week.

Main features of the revised course will be the elimination of the laboratory work and a shift to three 16 week semesters as opposed to the two 25 week terms now in existence. The laboratory work was eliminated because school officials determined that students presently enrolled were receiving similar experience by virtue of their work assignments at Melpar. A limited number of demonstration laboratory sessions will be given 'in plant'.

Per semester cost of the course will be reduced in accordance with the schedule shift, effective with the new class on September 8, 1958.

MELPAR EMPLOYEES LEAD SECOND IRE MILITARY ELECTRONICS CONVENTION

Melpar employees played an important role in the 2nd National Convention on Military Electronics, sponsored by the Professional Group on Military Electronics of the IRE. President of the convention, held June 16 through 18, was W. B. Larew, Staff Assistant to Chief Engineer R. S. Butts.

The meeting was co-sponsored by Melpar and attracted over 2500 visitors in addition to the 1500 delegates to the four-day session.

A. A. Varela, Staff Assistant to Vice-President C. B. Raybuck, acted as moderator of the session concerned with Ranging and Tracking.

Engineering Service Representatives E. A. Painter and F. F. Percy served as members of the Arrangements Committee.

MELPAR 'RECRUITS' 110 FIELD SERVICE MEN FROM 'SWITCH'

Melpar's growing employee total gained 110 new faces on July 1, 1958, when that number joined the company from the Union Switch and Signal Division of Westinghouse Air Brake Company. Part of a move designed to serve the best interests of the Air Force by consolidating Field Service operations, the transfer coincides with the effective date of new field service contracts negotiated recently.

Adding many field service locations at far flung bases throughout the world, the transfer is unique in that the world wide stations of the transferees dictates that most of this large number of Melpar employees may not see our plants, or meet other Melpar employees, until some future date. Nevertheless, the move will provide field service personnel with opportunities to work on new simulators and to keep abreast of the latest developments in simulator techniques through close liaison with Melpar's simulator design and development engineers.

The transferred employees become eligible to receive Melpar benefits immediately upon completion of the proper forms.

Present contracts are to provide service for the F-86D, F-100 and F-101 simulators for the Air Force as well as the A4D, for the Navy and Marine Corps. Added to this is the projected requirement for servicing the Helicopter simulators currently being developed at the Falls Church plant.

The Field Service operation will be headed by Supervisor J. O. Dankmyer who previously held this position at Union Switch and Signal Division. W. R. Sherman becomes Supervisor of Training, to provide support for the Field Service operation. Mr. Dankmyer joined the Westinghouse Air Brake family in May 1952 and was promoted to his present position in May 1953. He is a graduate of Carnegie Institute of Technology.



ACTUATING the Perkin Elmer Spectrophotometer is Lead Chemist S. R. Lewis, of Falls Church. The instrument rapidly identifies material through characteristic absorption patterns. Photo by Norton

LAWSON PATENT AWARD COVERS ACTUATOR DEVICE

Melpar Project Engineer A. A. Lawson, in association with C. W. Ross, has been awarded a United States patent covering the invention of a tamper proof actuator designed to prevent unauthorized or unintentional tampering with the settings of various mechanically adjustable electrical circuit elements.

A component such as a potentiometer, tuning condenser, or variable resistor is provided with a drive mechanism coupled to its actuating knob through a clutch. An ingenious push-button arrangement makes it possible to protect component settings by de-clutching the knob.

RESERVE OFFICERS BRIEFED

14 Naval Reserve Officers, attached to the Office of Naval Research, attended a briefing at the Falls Church Plant on June 26. The reservists, all of whom are scientists in civilian life, participated in the program as part of their active duty training.

R. I. Cole and J. A. Morrison, of Engineering Services, and E. H. Pierce, Staff Assistant, outlined Melpar's organization, facilities and capabilities. A showing of the Project Mini-Mech film was one of the examples used to illustrate points discussed during the briefing.

COSTELLO TREATISE WINS FORD FOUNDATION PRIZE

Martin J. Costello, Senior Operations Analyst, was announced recently as a winner in competition sponsored by the Committee for Economic Development, and funded by the Ford Foundation. His entry was a paper dealing with the question, "What is the most important economic problem to be faced by the United States in the next 20 years?"

In answering the question, Costello pointed out various factors supporting his contention that the threat of a major depression is most menacing. Pointing out that automatic stabilizers such as social security and unemployment insurance can't provide enough purchasing power to forestall a depression, he estimated the chances for such a catastrophe are about one in six. New conditions, such as a huge increase in consumer debt, make a slump more possible, he argues.

Costello was employed in March, 1955 by the Corvey Engineering Company. He joined Melpar, as a member of the Operations Analysis Department, when Corvey was acquired in 1957. He is a graduate of the University of Washington and a member of the American Economic Association, the American Statistical Association and the Econometric Society.

CHEM LAB DEVICE HAS VERSATILITY

Combining the functions of three separate spectrophotometers, the Perkin Elmer Model 13U Universal Ratio Recording Spectrophotometer recently acquired by the Falls Church Chemical Laboratory, is a valuable tool capable of being used in a multitude of analytical applications.

In addition to measuring the transparency of materials to infrared, visible or ultraviolet light, this spectrophotometer will aid in making rapid quantitative analysis, measurement of colors, measurement of light intensity and wavelength. The versatility of this unit in colorimetric analysis, ultraviolet absorption spectra studies, luminescence studies, infrared detector and materials investigations and polymer structure studies assures that the equipment will be in constant demand.

The instrument, using a series of precision optical components and sensitive radiation detectors, is capable of measurement of both wavelength and intensity of radiation in and near the visible spectrum.

The spectrophotometer is designed so that rapid changes in detectors, light sources and optical components can be made, thus adding to its versatility. Experimental detectors can be studied by substitution of the experimental detector into the measuring circuit.

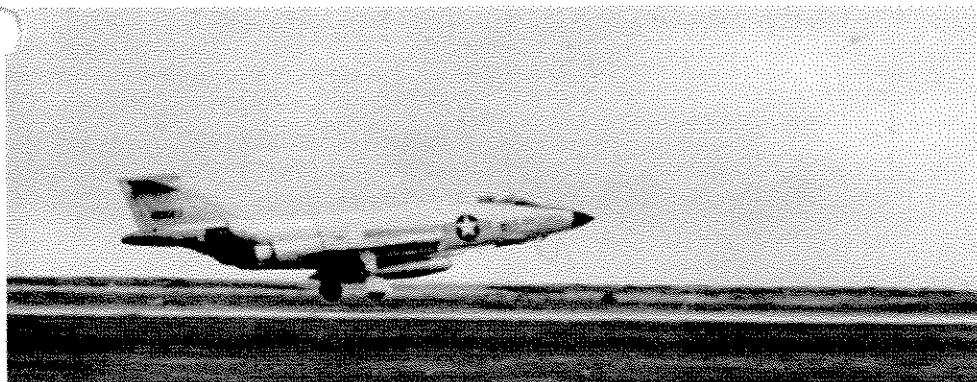
The chemical structure of organic material such as solvents, plastics, gases, greases and crystals can be determined by carefully observing the transparency of these materials to infrared and other wavelength energy. Each material has a characteristic absorption pattern which allows rapid identification.

MORE SPACE TO BE ADDED

Expansion of the Columbia Pike Plant and the addition of two new locations on Hardin Ave., just off Leesburg Pike at Bailey's Crossroads, was assured with the action of the Fairfax County Board of Zoning Appeals on June 24, 1958. Granting certificates of occupancy for the buildings, the board's action will touch off a series of moves.

Some activities of the Bailey's Crossroads Engineering Department will temporarily move into Columbia Pike building number 4. Sharing this space will be Arlington Division's simulator production. One of two Hardin Ave. plants will be used for material storage.

SIMULATOR CREDITED WITH LIFESAVING



COMING IN for a landing—minus nose wheel—is an F-101 piloted by 1st Lt. T. W. McGuire, who gave full credit to a Melpar designed simulator for enabling him to make the landing.

Official U.S. Air Force Photo

A Melpar designed and built F-101 Flight Simulator received the major credit for enabling an Air Force Pilot to effect the safe landing of an F-101 Voodoo fighter with the nose gear in an up position.

While making preparations for a landing, 1st Lt. Thomas W. McGuire, of Bergstrom Air Force Base, Texas, was unable to lower his landing gear by routine operation. After successfully lowering the main gear by using emergency procedures, he attempted, unsuccessfully, to jar the nose gear down by touching the main gear to the runway at speeds of 200 miles per hour. With his fuel running low, Lt. McGuire, calling upon all of his simulated emergency training, landed the plane on the main gear, holding the nose high.

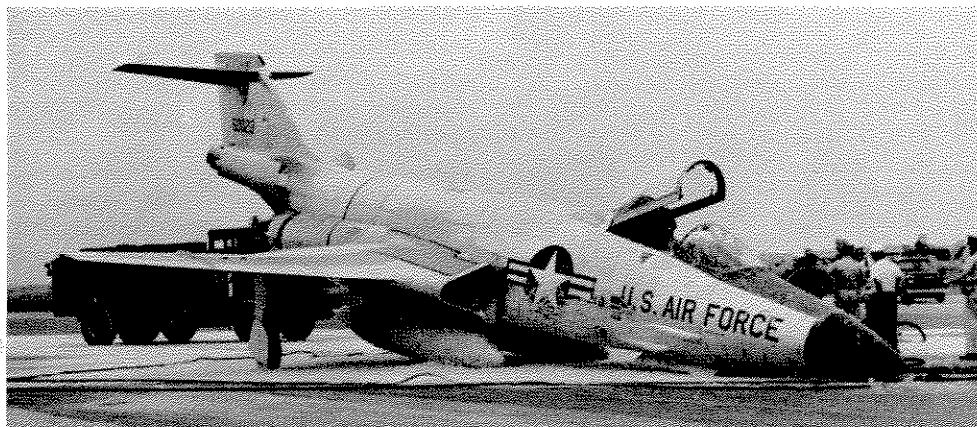
When the speed of the aircraft had dropped to about 85 miles per hour he eased the nose to the runway. After skidding about 2000 feet on the external fuel tanks and nose, the aircraft came to rest and the first landing of an F-101

without nose gear—though unplanned—was successful.

Lt. McGuire, who previously had only four flights and ten hours in the F-101, praised his training in Melpar's Flight Simulator by saying, "Prior to my check-out, many hours were spent in briefings and engineering training on the ground . . . yet none of this time contributed as much as the familiarization rides in the F-101 Simulator . . . which, I feel, gave me the confidence that allowed me to land this F-101 successfully."

"The Bergstrom Jet Gazette" in reporting the incident noted that, "the simulator is not just a training device but a necessary instrument in saving many lives along with millions of dollars and has definitely established its own important role in flying safety."

The Simulator at Bergstrom Air Force Base is serviced by Field Engineer R. K. Arnold who noted that not only was the landing accomplished without injury to the pilot, but the airplane was flying again after less than 100 manhours of repair work.



SLIGHT DAMAGE, requiring less than 100 manhours of repair work, is revealed as the plane rests on its belly tanks and nose. Officials at Bergstrom Air Force Base credit the simulator with saving money as well as lives.

Official U.S. Air Force Photo

Ship Carrying Melpar Fuzed Talos Missile Joins Fleet

Commissioning ceremonies of the USS Galveston, the first fighting ship to be equipped with the Talos Missile were noted with interest by Melpar employees involved in the design and production of the proximity fuze used to trigger the missile's warhead.

Commissioning ceremonies were held at the Philadelphia Naval Yard where the Galveston was refitted. Two other cruisers—USS Little Rock and Oklahoma City—will rejoin the fleet armed with Talos.

Taking up design concepts formulated by the Naval Ordnance Laboratory at Corona, California, Melpar Engineers working under the direction of Section Heads E. S. Conrad and C. M. Volk brought the fuze through to an approved design. Test Missiles were fitted with Melpar fuzes at the Mishawaka plant of Bendix Products by Senior Engineer C. A. Stackhouse and Engineers F. A. Deviney and W. P. Johnson.

The missile demonstrated such a remarkable degree of accuracy and reliability that the Navy made the first shipboard installation directly on a first-line cruiser without the intervening steps of evaluation installations in auxiliary experimental ships.

The production of the fuzes is being accomplished by Manufacturing Manager B. Thomasian's group at the Arlington Division. Foreman N. J. Haines, of Supervisor O. J. Kennel's group, is responsible for Assembly; Supervisor W. R. Davis, of Planning Supervisor E. M. Waro's group, for Project Planning.

The Quality Control Test group, under Test Supervisor S. A. Armstrong, is responsible for the alignment and testing of the fuzes prior to shipment.

The Talos is powered by a ramjet engine to a velocity several times the speed of sound and, although originally designed for shipboard installation, the U. S. Army is presently studying the feasibility of incorporating a land-based Talos into the Continental Air Defense System.

MURGATROYD MISFIT

by dick prescott



Murgatroyd, the Widget Company stopped making connectors 10 years ago.

GOING UP!

M. G. Watson and L. L. Bonham, both of Columbia Pike have been promoted from Project Engineer to Section Head. J. M. Hill has been promoted from Buyer to Purchasing Agent, while N. J. Struttman was promoted from Technician to Junior Engineer.

Arlington promotions include; J. G. Parrish, to Mechanical Inspector 1st Class; J. K. Hall, to Senior Planner; V. M. Rogers, from Clerk-Typist to Secretary and O. M. Mills, to Line Inspector, 1st Class.

L. C. Smith has been promoted to Lead Reservations Clerk, at Falls Church and V. J. Helmick was advanced to Secretary. E. L. Clevenger moved up to Assistant Test Supervisor. M. T. Taylor advanced from Planning Assistant to Engineering Assistant, at Falls Church.

A. P. Trapnell and H. G. Swaim, of Falls Church, were promoted to Buyer, while J. L. Struder moved up to Senior Clerk-Typist.

At Arlington, N. P. Burbridge rose to Lead Duplicating Machine Operator and H. V. Wertz was advanced from Methods Aid to Junior Methods Engineer. D. J. Grumbley was promoted to Senior Accounts Payable Clerk. A. B. Stetler rose to Accounts Payable Clerk.

M. R. Seiler, of Falls Church, advanced from Physicist to Senior Physicist. R. R. Cline, of Columbia Pike, was promoted from Expediter to Junior Planner. A. P. Perros rose to Buyer at Falls Church.

Other Arlington promotions include: A. Z. Smith and F. E. Nason, from

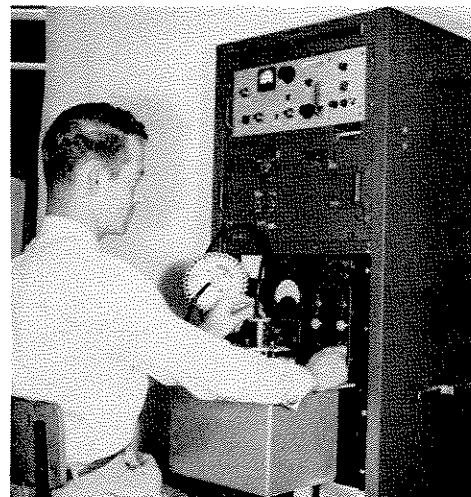
Planner to Senior Planner; P. F. Combs, from Junior Planner to Planner and J. A. Walton, to Sheet Metal Man 1st Class.

Promoted to Chemical Technician at Falls Church were: J. F. McAloney, D. K. Adair and W. A. Campbell, while C. E. Parker rose to Experimental Machinist.

R. E. Lowder and E. A. Jagers advanced to Mechanical Inspector 1st Class. At Bailey's Crossroads, R. H. Dunn rose to Senior Technician.

T. K. Parks, of Columbia Pike, was promoted to Project Engineer, while J. E. Fuchs and R. R. Richards, of Falls Church, advanced to Wire Technician 1st Class.

Advancing from Technicians to Senior Technicians were: G. B. Milstead, T. W. Wiley, R. C. Glass and E. J. Burnham of the Falls Church Plant.



MAKING MONEY by saving time, in testing AC potentiometer and variable autotransformers, is Technician P. E. Bowen of Incoming Inspection at the Arlington Plant. Photo by Tatroe

MANY HOURS SAVED BY NEW TEST RIG

A saving of approximately 20,000 hours of test time will be realized through a new AC Linearity Tester designed and built by the Test Equipment Design and Construction group of the Quality Control Department.

Faced with the task of testing some 3200 motor driven AC precision potentiometer and variable autotransformers for Arlington Division's simulator production, Incoming Inspection Supervisor E. C. Mooney went in search of a quicker, more accurate method. The accepted procedure, involving the use of a dividing head, would require seven hours per unit; the units being 10 turn devices and good practice requiring 200 tests per turn, (2000 total tests).

Further complicating the problem was the reference standard to be used. Since the units are to be used on alternating current, use of a linear potentiometer was ruled out, and a rotating reference sought. The only such device, readily available and with the required accuracy, was a 1000 turn standard ratio-transformer.

Assistant Test Equipment Supervisor E. L. Clevenger, who designed the tester to be adaptable to other ratio devices as well as the ones currently under test, utilized a 200 RPM motor directly rotating the unit under test and rotating the 1000 turn reference standard through a precision gear train. A strip chart recorder and amplifier records the voltage difference.

Linearity of the reference signal is so accurate (plus or minus .002%) that it is considered linear. Thus, any difference as seen by the recorder is assumed to be due to the unit under test.

In addition to reducing the test time from seven hours per unit to 10 minutes per unit, the tester achieves an overall accuracy of .003%; the best accuracy obtained by the previous method is .02%.

The tester was constructed by Junior Engineer B. T. Atherton, Technician D. E. Cissel, and Instrument Maker W. K. Schuster.