

AIR SCOOP

LANGLEY MEMORIAL AERONAUTICAL LABORATORY

REMINDE EMPLOYEES OF DEADLINE FOR C. S. EXAM

In order to be included in the first register of eligible names which will be used in making promotional appointments, employees in the positions of Engineer, Physicist, Naval Architect, and Mathematician, grades P-2 to P-8, are reminded that their applications for examination must be submitted to the NACA Board of U. S. Civil Service Examiners by midnight April 30.

Employees in the following positions are also reminded that their applications must be in by Monday, April 28: Sheetmetal Worker I through V, Aviation Metalsmith I, Electronic Mechanic I through VI, Electronic Mechanic Group Leader, Instrument Maker I and II, Radio Mechanic I and II, Instrument Installation Mechanic I through V, Instrument Shop Mechanic I through V, and Tool Grinder.

FINAL PERFORMANCE SET FOR TONIGHT

The Hampton Little Theatre will present its second and final performance of "Joan of Lorraine" to night at 8:15 in the Hampton High School auditorium.

The scene is laid on the stage of a theatre where a play about Joan of Arc is being rehearsed. The director, Jimmy Masters, finds that some of the cast, in particular his leading lady, Mary Grey, are not in complete accord with him in regard to the interpretation of Joan's character. During the rehearsal, in interludes of discussion among the actors, this conflict develops to the point where Mary delivers an ultimatum that the play must be changed or she will not play the role. Upon this decision rests the future of the show.

(Continued on page 3)

SPRING PROM FRIDAY, MAY 16

The NACA Morale Activities Association will sponsor a Spring Prom on Friday, May 16, at the Activities Building. Music will be furnished by Joel Vause and his fourteen piece orchestra and the semi-formal affair will get underway at 9 p.m. The side porches, which have recently been screened-in, will be open for moonlight dancing.

Ample notice of the Spring Prom is being given so that socialites may reserve that date on their social calendar for a gala evening at the Activities Building. Most of the proceeds from the dance will go towards buying porch furniture in order to make the screened-in porches usable for spring activities.

Tickets will be \$1.50, stag or drag.

NEW CIVIL SERVICE LAWS EFFECTIVE MAY 1

President Truman has signed Executive Order No. 9830, promulgating new Civil Service rules and regulations, effective May 1, and rescinding previous rules and regulations and executive orders.

The new rules and regulations are chiefly a condensation and a recodification of previous material and no significant change in general policies is expected.

The new regulations and procedures are reduced to simpler, more understandable language and should result in improved efficiency of administration.

ASK EMPLOYEES NOT TO MUTILATE CHECKS

The Reconciliation and Clearance Division of the General Accounting Office has reported that considerable difficulty is being encountered when attempting to process the checks through tabulating and sorting equipment due to mutilating by pin or staple holes or in the presence of staples on the checks.

The Laboratory has been requested to caution employees concerned against mutilating salary checks in any manner.



Bette Darling, as Joan, is shown above in one of the more dramatic scenes of the Hampton Little Theatre's production of "Joan Of Lorraine. The second performance of the play will be presented tonight at 8:15 at the Hampton High School auditorium.

--Photo by Bill Taub

The Air Scoop, an official publication of the Langley Memorial Aeronautical Laboratory, National Advisory Committee for Aeronautics, Langley Field, Virginia, is published weekly in the interest of its employees. Address contributions to the Editor, Service Building, telephone 2376.

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The first Indoor contest featuring rubber powered models was scheduled to be held last Sunday in the Balloon Hangar, but had to be postponed due to the fact that one of the large doors had been open by mistake and due to the high winds. However, the glider meet was held with surprising results. Joe Freeman came rocketing up from near the bottom of the list to tie Gordon Cheesman for first place with a high time of 45 seconds. Both men were using Class "A" gliders. John Worth was second with 43 seconds and Joe Boyle third with 42.7.

In the Junior division Herby Hobbs came through with a 26.4 second flight with his Class "A" model.

The Novice Indoor contest will be held next Sunday and rubber powered indoor stick and cabin type models will also be flown. The model must be built and flown by the contestant unless a physical handicap is evident. Each contestant will be allowed a maximum of three gliders of any class and a total of nine official flights. The longest of the nine flights will be the official high time. AMA rules will be used. The trophy for the Novice contest is on display at the Hampton Model Shop. Prizes will also be awarded to the runner-ups.

SICK LEAVE CHARGE FACES NAVY WORKER

The "Air Scoop" has been informed that one Norfolk Naval Shipyard employee, who caused himself to be carried on sick leave while actually working outside the yard, has been arraigned before the United States Commissioner and is out on \$1,000 bail awaiting grand jury action.

A second such case is presently being investigated by the FBI, it was reported.

The Naval Shipyard employee was charged with making a false statement to the Government and faces a possible fine of not more than \$10,000 or imprisonment not more than ten years, or both.

FOR RENT: 2 small adjoining bedrooms. Each \$15 per month. Home accessories available. Call Hampton 6246 after 5:30 p.m.

WANTED: Passengers from Hampton to East Area on 8:15 shift. Jules Miller, 2212.

LIVE at the LABORATORY

The newly elected.

Bachelor's Club seems to be causing quite a bit of controversy with eligibles clamoring to be appointed to the new group. The "so-called eligibles" were even more emphatic about becoming members when explained that the club was not intended to be a stable group at all but was just a means of letting the female element know who are the most likely prospects - in other words its the group next in line for the journey on the road to matrimony. Well, we warned them, but to make bachelorhood a little brighter we are increasing the membership from eight members with one advisor to ten. The two new members are Jim Parks, Pilotless Aircraft, and Norman Smith, 8-Foot High Speed Tunnel.

Flight Research employees.

were a bit surprised Friday when they read under the "Marriage Licenses" column of the "Daily Press" that one of their fellow-workers, Bob Mungell, had purchased his license to wed. A little research into the matter revealed that Bob was married on Tuesday, April 22, to Frances Stubbs Powell of Newport News.

Well, it looks as though.

people are having babies again. Physical Research really kept the stork busy last week with two new arrivals to the Division. A new daughter was delivered to the Walter J. Doneson household and a son to the Wilton J. Millers.

Another proud papa.

is William Biebel, Full Scale Analysis. He became the father of a son on Thursday, April 17.

Now that new cars.

are being delivered more frequently, the highways are filled on week-ends with husbands teaching their wives the finer techniques of driving. The best one we've heard so far happened last Sunday. Ernest Perkins, West Machine, was teaching his wife, Daisy of West Sheetmetal, the art of operating a vehicle. Daisy was quite a good pupil and managed to get the car home without a scratch. Not being very experienced, however, she asked Ernest to put the car in the garage which he did - through locked doors and all.

Personnel Records was.

all in an uproar Tuesday afternoon when word came in that one of their former employees, Mary Sandling, had just become the proud mother of a nine pound, seven ounce daughter.

Another new parent.

is Russell Mills of Instrument Service. He became the father of a daughter, Kathleen Linda, on Friday, April 18.

Among our distinguished visitors.

to the Laboratory last week was John Nicholas Brown, Assistant Secretary of the Navy for Air, and his aide, Captain John Lockwood Pratt. They dropped in last week for a short visit and visited some of the research facilities. Other visitors were Clo Wood of the Washington Office, Albert L. Erickson from Ames, Andre J. Myer, AERL, and C. H. Sturges, Washington Office.

FOR SALE: 1936 Dodge coupe. Looks bad, sounds worse, but is transportation. \$150. G. W. Poythress, E. Eng.

FOR SALE: 4' X 4' single wheel utility car trailer. Carl Baab, Physical Research.

COMING EVENTS

Printed below is a calendar of coming events scheduled to take place in the Activities Building throughout the following week.

- April 29 - 7:45 - Bridge Club IRD Section Party
- May 2 - Radio Club Dinner
- May 3 - 3 p.m. - Hydro Picnic
- 7 p.m. - 19' PT Party

TENPIN LEAGUE BANQUET MAY 10

The Tenpin League will close its season of play with a dinner-dance on Saturday, May 10, at 7 p.m. at the Activities Building. Featured on the menu will be steak. During the dinner prizes will be awarded to the winners, after which the evening will be devoted to a juke box dance. The affair is not restricted to members associated with the league but is open to all interested persons.

Tickets are \$1.50 per person and may be purchased from the team captains. For further information contact Phil Fullmer, Low Turbulence, or John Houbolt, Structures Research.

INVITE EMPLOYEES TO DANCE MAY 2

The Civilian employees of Langley Field are giving a Civilian War Department Employees Dance on Friday, May 2 at the Langley Field Boat House and have extended an invitation to NACA employees. The dance will get underway at 9 p.m. and music will be furnished by Joel Vause and his orchestra. Door prizes will be given and tickets may be purchased from Jules Miller, Research Staff Office, for 75 cents, stag, or \$1.50 a couple.

ACER NOTICE

In order that ERC men may not be delayed in the receipt of their Army discharges, they should send their current mailing addresses, if different from their old addresses, to Second Army Headquarters, Attention: F. M. Jones, CWO, USA, Baltimore 2, Maryland.

FOR SALE: 1946 General Electric deluxe refrigerator. 622 27th St., Newport News.

FOR SALE: Everhot electric roaster, and apartment size oil circulating heater. F. S. Wolak, E. Engineering.

FOR SALE: Unity spotlight, chrome, \$12. Soda king club soda bottle, chrome, \$3. Bob Shack, 7 X 10.

All you need in this life is ignorance and confidence, and then Success is sure.

--Mark Twain



Shown above are several Laboratory employees who will take part in the Hampton Little Theatre's production of "Joan of Lorraine". They are (from left) Marv Haar, Tank; Harry Hamilton, Reproduction; John R. Dawson and Jack Parkinson, both from Hydrodynamics Division; Bette Darling as Joan; Granville Derby, 8-Foot; and Sally Rodriguez, formerly of Purchase.

--Photo by Bill Taub

LITTLE THEATRE

(Continued from page 1)

The leading roles are played by Bette Darling as Mary Grey and Tiny Hutton as Jimmy Masters. Al, the stage manager, and Tessie, the assistant stage manager, will be portrayed by Charles and Sally Rodriguez.

Joan's father, Jacques d'Arc, will be characterized by Ian H. Ross, and her brothers, Pierre and Jean, by Philip French and Crickett Burr. Manny Stein will portray her uncle, Durand Laxart, while her military advisors will be H. Granville Derby as La Hire, Marv Haar as Dunois, Frank Hilsdon as Jean de Metz, and Joe Herrig as Poulengy.

Harry H. Hamilton will make his first stage appearance as the Dauphin, with the members of his council portrayed by Jack Parkinson as the Duc de Tremoille, John R. Dawson as the Archbishop of Rheims, and Robert Connor as Chartier, the court poet.

Joan's spiritual guides, Saint Catherine, Saint Margaret, and Saint Michael, will be played by Mary Campbell, Vivian C. Groome, and Harry Smith, respectively.

The part of Marie, the costumer, will be taken by Dorothy Alfrey, and Dick Cole will be seen as Thomas de Rcelles.

"Joan of Lorraine" is directed by David M. Goldenbaum and produced by T. Melvin Butler.

WANTED: Ride on 8:15 shift from Cheadles section near Seaford to E. Area. Omar White, 2336.

BOWLING NEWS

The Second Round of the Tenpin Bowling League ended with Alleycats on top with 26 wins, 10 losses, and a .722 average. Guttersnipes came in second with 23 wins, 13 losses, and a .639 average. Playoffs between Alleycats and Pinbusters, winners of Round I, will be held sometime this week.

Individual trophies will be awarded to each member of the winning team. Trophies will also go to Psztch with high team set of 2600, Alleycats with high team game of 943; and Peg McNulty, Rockets, with high set of 485, high game of 184, and high average of 144.

Prizes will be awarded to Les Oberney, Alleycats, with a 631 high set; Al Braslow, Pinbusters, 245 high game; and Luke Liccini, Pinbusters, 171 average.

FINAL STANDINGS

| Team | W | L | Avg. |
|---------------|----|----|------|
| Alleycats | 26 | 10 | .722 |
| Guttersnipes | 23 | 13 | .639 |
| Maplemaulers | 22 | 14 | .611 |
| Psztch | 21 | 15 | .583 |
| Lets-Strike | 20 | 16 | .555 |
| Headpins | 19 | 17 | .528 |
| Pinbusters | 18 | 18 | .500 |
| Fiscal-Wrecks | 17 | 19 | .472 |
| Rockets | 17 | 19 | .472 |
| RC & T | 14 | 22 | .389 |
| Miscellaneous | 14 | 22 | .389 |
| Missilot | 11 | 22 | .333 |
| Woodpeckers | 9 | 24 | .272 |

WANTED: Passengers from Newport News to West Area on 8:15 shift. Blanche Sponsler, 4570.

NACA HAS VITAL ROLE IN HIGH SPEED BOMBER PROGRAM

Proof that the NACA has an important role in this country's rapidly widening lead in overall aviation development was seen recently in the successful test flights of two four-engine jet bombers which attained a speed of 500 miles per hour.

The test flights indicate that the United States will have the first fleet of long-range 500-mph bombers. The multi-jet bomber program also represents a radical departure from traditional military development techniques and produced a flying prototype of new type aircraft less than 28 months after it was begun on the drawing board.

Participants in the program, in addition to the NACA, included the Army Air Forces, and six aircraft manufacturers. Begun in November, 1944, the program by next fall should provide a powerful array of jet bombers all powered by GE-Allison J-35 engines.

The two bombers already flight-tested are the North American XB-45, which has four jets in two wing nacelles, is 74 feet long, has a wing span of 89½ feet, and carries a crew of four; and the Convair XB-46, with four jets in two wing nacelles, a wing span of 113 feet, a length of 106 feet, and weighing 91,000 pounds gross and 42,982 pounds useful load.

Other bombers include:

The Boeing XB-47, designed to exceed 600 mph at 30,000 feet, has six jets, four in two wing nacelles and one at each tip of swept back wings.

The Martin XB-48, expected to do better than 500 mph at 35,000 feet, has six jets, three in each wing nacelle.

The Northrop YB-49, designed to exceed 500 mph at 20,000 feet, has eight jets in trailing edge of flying wing. (The YB-49 was not part of the original program.)

Considerable work was done at the Langley Laboratory in connection with the high speed bomber program, especially in the 8-Foot High Speed Tunnel, the 24-Inch High Speed Tunnel, the Two-Dimensional Low Turbulence Pressure Tunnel, and the 19-Foot Pressure Tunnel.

Coincidental with initiation of the program here, the 8-Foot High Speed Tunnel, which studied compressibility effects, increased its motor drive horsepower from 8,000 to 16,000, making it possible to obtain the velocity of sound in the tunnel test section. To obtain reliable data at velocity approaching the speed of sound, a new testing technique was developed for use in the bomber pro-

gram, and with new type supports a complete fundamental high speed bomber investigation was carried out.

The wing decided upon was a compromise between high speed aerodynamics of the wing and the structural problem. The wing, an NACA design, was extremely thin with unusually high aspect ratio and heavy taper, combining high speed and long range characteristics.

The wing was tested in the 8-Foot Tunnel up to 95 per cent of the speed of sound to determine the lifting, pitching moment, drag, buffeting and stability characteristics at high speeds. Down wash surveys and wake fluctuations were determined. For structural design, complete span load distributions were obtained up to 95 per cent of the speed of sound.

Also included in the 8-Foot Tunnel wing program were investigations of aileron characteristics, wing dive-breaks, and an NACA dive recovery flap. Tests of a typical high speed bomber tail were also carried out, as well as studying the effect of trim tab and elevator deflections. The results of the tests indicated that the high speed bomber contemplated could fly at 550 mph without being affected by the adverse changes in the various aerodynamic characteristics associated with the onset of shock which occurs when airplanes approach the speed of sound.

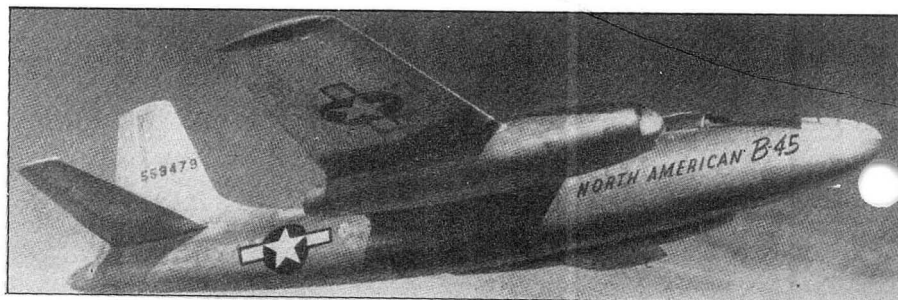
Three wings were built for investigations made in the 19-Foot Pressure Tunnel. Since the wings were very thin and had a high aspect ratio of 9 and taper ratio of 2½ to 1, it was desirable to obtain measurements at the highest Reynolds Number possible. Because of the heavy load on the wings and due to its thinness and high aspect ratio, the problem was to provide wings strong enough for the load. As a result, a solid steel construction was made. The 19-Foot Tunnel also studied effects of airfoil sections and washout and determined the characteristics of

high lift trailing edge flaps.

The 24-Inch High Speed Tunnel was concerned chiefly with the investigation of horizontal tail surfaces throughout the design speed range of the airplane, including the testing of several types of airfoil sections with spoilers and dive control devices in conjunction with the normal control surface configurations. Lift, drag, pitching moment and hinge moment characteristics were measured. Additional information was obtained through Schlieren photographs of many configurations, the photographs illustrating the effect of each variable on the fundamental nature of the flow about the airfoil.

The Two-Dimensional Low Turbulence Pressure Tunnel extended development of the NACA airfoil sections to thinner sections, studied thicknesses below the usual value of 12 per cent and tested sections as thin as 6 per cent. Since the maximum lift coefficient of the thin sections was very low, a study was made of the application of high lift devices. Tests were made of single and double slotted flaps, leading edge slats and application of boundary layer control to thin airfoil sections. In correlation with work done at 8-Foot, TDT determined aileron section hinge moments and effectiveness for the new sections, and the effects of modifications to the shape of the sections near the trailing edge. TDT also developed a new series of airfoils with the familiar cusp removed from the trailing edge to make the sections easier to construct.

It was pointed out that all of these bombers are approximately the size of wartime heavy bombers but are classified as "mediums" in the new AAF scale that starts with the XB-36 as a heavy and works down. They were designed for approximately a 10-ton bomb load and are expected to have a longer range than the latest B-17. The bombers are equipped with thermal de-icing systems, pressurized cabins, and have extremely high landing speeds.



FLIGHT-TESTING THE NORTH AMERICAN B-45