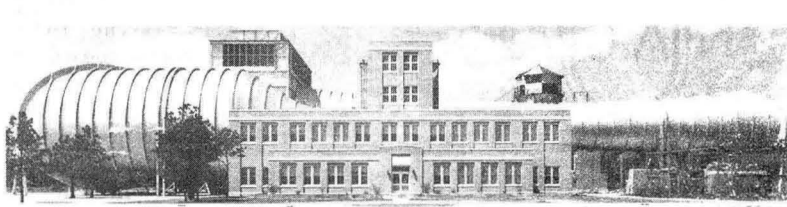
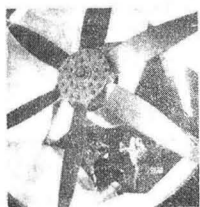


LMAL BULLETIN



LANGLEY MEMORIAL AERONAUTICAL LABORATORY

Issue 30, Vol. 2

Langley Field, Virginia, November 13-19, 1943

Page 1

COLLECT TOYS AS YULE GIFTS

Leigh Lewis, Apprentice Administration, and Bill Poythress, West Machine Shop, have been appointed to act as a committee to obtain used toys which will be repaired and made like new for distribution to children at Christmas time.

The committee was named by the Industrial USO on North King Street in Hampton and the persons who frequent the center propose to put the toys in shape during their leisure time.

Any one at LMAL wishing to donate old toys to the cause may communicate with either of the committee members or have their contributions deposited at the Industrial USO.

BRIDGE CLUB: The group which met last Monday night at the Industrial USO Club in Hampton to form an NACA Contract Bridge Club decided to meet every Monday at 7:30 p.m.

Training Engineers Subject Of Article

In the October issue of *The Journal of the Royal Aeronautical Society*, published in England, there is an article beginning on page 318 entitled "The Education and Training of Aeronautical Engineers", in which some interesting figures regarding such training in America is given.

Commends NACA Leaders

The article, which concerns a meeting held last June in England by the Royal Aeronautical Society, paid tribute to the "tremendous work that has been done during the last few years in technical education and especially aeronautical engineering in the universities of America and the work of such men"....as Dr. Jerome C. Hunsaker, Chairman of the NACA; Dr. Edward P. Warner, former Chairman; Dr. George W. Lewis, Director of Aeronautical Research, and others.

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LAB'S BOND PERCENTAGE SHOWS RISE

The Laboratory's percentage allotment for war bonds under the pay roll savings plan went up as a result of the Third War Loan drive, but not according to expectations, the October report shows. The percentage allotted during last month was 13.05 as compared with 11.76, the figures for the month preceding the far-reaching September campaign.

The percentage of employees participating dropped lower than it has been for several months, 94.56, almost two points below August's 96.37.

There were 2,263 employees on roll in October and 2,140 subscribed to the savings plan. Gross pay roll was \$440,598 and the amount allotted was \$57,489.22, making an average allotment of \$26.86.

WAR TO EXPAND USE OF AIRCRAFT IN PEACETIME

"The expanded use of aircraft in world commerce will be the greatest enduring contribution this war will make to the progress of civilization", an NACA official is quoted in an article entitled, "Aircraft Development", in the December issue of *Skyways*.

Franklin H. Stevenson, author of the article, mentions that, "Truly the NACA has been hiding its light under a bushel" and suggests that the results of the Committee's constructive thinking should have had the widest publicity.

The illustrated article quotes an NACA official as saying that, "Although information on new developments necessarily falls into enemy hands through the shooting down and capture of our ships, we are planning so far ahead that this really shouldn't be a vital matter", adding that "in the case of any major new development, it would take the Axis powers at least a year or more to get into production and

(See page 2)

LMAL Chorus Meets On Monday Nov. 15

To start the week off right, the LMAL Chorus will meet for rehearsal on Monday, November 15, 1943, at 7:30 p.m. at the Academy Street USO Club in Hampton:

This is the first meeting in several weeks, during which time the director has been contacting members with a view to setting a night suitable to all. Please note change to Monday night. All members and others interested are urged to be on hand promptly.



The LMAI Bulletin is prepared and published at the Langley Memorial Aeronautical Laboratory of the National Advisory Committee for Aeronautics, Langley Field, Virginia, in the interest of LMAI employees. Contributions of news and art should be sent to the Editor, in the Administration Building. Telephone: 370

Editor E. Lee Dickinson
Associate Editor Ruth Angel
Art Editor Ben Vogel
Reporters LMAI Employees

WAR TO EXPAND AIRCRAFT USE (From page 1)

throw it back at us. By that time, the chances are good that it would be surpassed by further American developments and be obsolete insofar as America was concerned."

Pointing out that "true progress must be based on new knowledge of fundamentals in any field," the article discusses the German D0-X, a 12-engined "monstrosity" which flew to this country to the tune of much publicity and ended up as a sideshow attraction, spectators paying a dime a head to look it over. This "freak" was one result of Germany's policy of giving contracts to industry simply to make bigger and better planes. The D0-X had a net propulsive efficiency of 37 per cent as compared to 75 per cent for contemporary, scientifically-designed planes, the article said.

When Hitler was making his original conquest, that of Germany itself, Nazi officials admitted that America was ten years ahead of the Reich in aeronautical development, the article said. "Germany caught up to us in less than ten years", however, through an accelerated program, but failed to go ahead because their system of "dictatorship" was stifling scientific initiative.

According to the article, the NACA's buildings include some 30 wind tunnels, covering around 400 acres and with approximately 4,500 employees.

Although the NACA "is not wasting its time with postwar problems at present", since war demands cannot wait, postwar problems are not forgotten, the article mentioned. Nearly all of the Committee's war work "will be applicable to the improvement of the efficiency and safety of civil and commercial aircraft after the war".

The magazine quotes NACA officials as voicing the hope that the "national aviation policy after the war will be such as to keep at least a nucleus of the aircraft industry in a healthy condition." The article mentions a part of the Committee's 1924 report which noted that "it is safe to say that (in future warfare) there will be individual and group fighting in the air; there will be aircraft attacking troops on the ground, both with bombs dropped from great heights and with machine guns mounted on low-flying aircraft protected by armor; there will be bombing of large cities, military and manufacturing centers, and routes of communication and transportation."

It was in connection with this prophecy that the article declared that the NACA "has been hiding its light under a bushel."

LIBRARY NEWS

The following new books have been received in the Library and are available for charging out for a four-day loan period. These books must be called for and returned personally by staff members.

Loeb, L. B. Fundamental Processes of Electrical Discharge in Gases.

Mackey, C. O. Graphical Solutions.

M. I. T. Applied Electronics.

Miller, F. H. Partial Differential Equations.

Morecroft, J. H. Electron Tubes and Their Applications.

Philips, H. B. Vector Analysis.

Puustein and Lloyd. Alternating-Current Machines.

Reddick, H. W. Differential Equations.

Stratton and Others. Elliptic Cylinder and Spheroidal Wave Functions.

Treadwell and Hall. Analytical Chemistry. (Vols. 1 and II).

Blackwood and Others. Outline of Atomic Physics.

Zworykin and Morton. Television.

Reddick and Miller. Advanced Mathematics for Engineers.

Copson, E. T. Theory of Functions of a Complex Variable.

Courant and Robbins. What is Mathematics?

Griffith, R. H. Mechanism of Contact Catalysis.

Moullin, E. B. Spontaneous Fluctuations of Voltage.

Newitt, D. M. Design of High Pressure Plant and Properties of Fluids at High Pressure.

Heitler, W. Quantum Theory of Radiation.

Hinschelwood and Williamson. Reaction between Hydrogen and Oxygen.

Drude, Paul. Theory of Optics.

Kryloff and Bogoliuboff. Introduction to Non-Linear Mechanics.

Brainerd and Others. Ultra-High Frequency Techniques.

VACATION RHAPSODY

RETURN OF THE NATIVES:
 Kaye Fetzer, 8-foot Tunnel, from home in Pennsylvania; Barbara Allan Moss, 16-foot Tunnel, from Washington; Shirley Euxter, 16-foot Tunnel, from home in Richmond; Ferne Driver, 16-foot Tunnel, from home in Parrisonburg; Doda Mae Smith, East Area Computing, from Roanoke; Julia Woodbridge, AID, from home in Williamsburg; Hazel Philyaw, 19-foot Tunnel, from home in Comfort, N.C.; Dot Estes, 19-foot Tunnel, from Norfolk; Ralph Schrenell, Engineering Section, from home in New Jersey, where he visited his parents and also, it is rumored, a feminine interest;

THOSE STILL AWAY: Joe Burke, Personnel, and his wife, Pearl, at her home on the Eastern Shore and Joe's home at Pavernill, near Boston; R. Phillips Bielat, 8-foot Tunnel, at home in East Paddam, Conn.

SUGGESTION Staff members should clip the air raid instruction chart below and keep it for future reference.

REPRODUCTION AL SAYS: MAKE LINES SUFFICIENTLY HEAVY



MEETING: The NACA Janitors' Relief Club meets Sunday, Nov. 21, at the Masonic Temple on North King Street in Hampton. Silas Carney, Secretary, announced.

FOUND: A key, on the road between the Engineering Section and Machine Shop Building and the Spin Tunnel. On one side is the number H700. The owner may apply at the Bulletin Office.

THE CLASS in Appreciation and Prediction of Flying Qualities, taught by W. P. Phillips, will meet at 7 p.m. Tuesday, Nov. 16, instead of the usual time at 7:30.

HARVEST MOON: Virginia Tucker, Kitty Joyner, and Mary Jones are selling tickets to the Harvest Moon Dance to be held Friday, Nov. 19, from 9 to 12 midnight at the St. John's Episcopal Church Parish House.



L M A L

AIR RAID ALARM SIGNALS

REVISED
NOV. 13, 1943.

ALL ACTIVITIES WILL BE NOTIFIED BY TELEPHONE DURING FIRST PERIOD IF NACA IS NOT TO PARTICIPATE IN PRACTICE ALERT

<div style="text-align: center;">  <p style="font-size: 2em; font-weight: bold; margin: 0;">1</p> <p style="font-size: small; margin: 0;">BLUE</p> </div>	<p style="font-size: x-small; margin: 0;">TWO MINUTE STRAIGHT BLAST ON SIREN</p> <p style="font-size: x-small; margin: 0;">SERIES OF SHORT RINGS ON GENERAL CALL SYSTEM</p> <p style="text-align: center; font-weight: bold; margin: 5px 0;">PRELIMINARY WARNING!</p> <p style="font-size: x-small; margin: 0;">PERSONNEL DESIGNATED WILL BLOW DOWN TUNNELS, OPEN SWITCHES AND GENERALLY SECURE EQUIPMENT. OTHER PERSONNEL WILL REMAIN AT THEIR POSTS, LOCKING UP CONFIDENTIAL PAPERS OR VITAL EQUIPMENT IN PREPARATION FOR DEPARTURE FOR AIR RAID SHELTERS. IF RAID IS AT NIGHT ALL BUILDINGS WILL BE BLACKED OUT. TRAFFIC WILL CONTINUE TO MOVE.</p>	<div style="text-align: center;">  <p style="font-size: 2em; font-weight: bold; margin: 0;">3</p> <p style="font-size: small; margin: 0;">BLUE</p> </div>	<p style="font-size: x-small; margin: 0;">TWO MINUTE STRAIGHT BLAST ON SIREN</p> <p style="font-size: x-small; margin: 0;">SERIES OF SHORT RINGS ON GENERAL CALL SYSTEM</p> <p style="text-align: center; font-weight: bold; margin: 5px 0;">ENEMY PLANES HAVE GONE BUT DANGER OF THEIR RETURN STILL EXISTS!</p> <p style="font-size: x-small; margin: 0;">PERSONNEL WILL LEAVE SHELTERS AND RETURN TO ACTIVITIES</p>
<div style="text-align: center;">  <p style="font-size: 2em; font-weight: bold; margin: 0;">2</p> <p style="font-size: small; margin: 0;">RED</p> </div>	<p style="font-size: x-small; margin: 0;">TWO MINUTE WARNING ON SIREN OR SHORT BLASTS</p> <p style="font-size: x-small; margin: 0;">6 SHORT RINGS 6 SHORT RINGS 6 SHORT RINGS</p> <p style="text-align: center; font-weight: bold; margin: 5px 0;">RAID IMMINENT - ENEMY PLANES PRACTICALLY OVERHEAD!</p> <p style="font-size: x-small; margin: 0;">PERSONNEL WILL PROCEED TO DESIGNATED AIR RAID SHELTER, FOLLOWING INSTRUCTIONS OF WARDENS. ALL TRAFFIC, PEDESTRIAN & VEHICULAR WILL STOP.</p>	<div style="text-align: center;">  <p style="font-size: 2em; font-weight: bold; margin: 0;">4</p> <p style="font-size: small; margin: 0;">ALL CLEAR</p> </div>	<p style="font-size: x-small; margin: 0;">45 SECOND BLAST ON AIR HORN</p> <p style="font-size: x-small; margin: 0;">NOTIFICATION BY TELEPHONE</p> <p style="text-align: center; font-weight: bold; margin: 5px 0;">ALL CLEAR!</p> <p style="font-size: x-small; margin: 0;">ALL SECTIONS WILL BE NOTIFIED BY TELEPHONE. PERSONNEL WILL RESUME NORMAL ACTIVITIES.</p>

L.M.A.L. OPERATIONS SAFETY COMMITTEE

STRUCTURES DROPS FRM TO SECOND PLACE

Structures Research beat FRM, 13 to 6, to mar their unbeaten record in the NACA football league.

Flight Research scored in the second quarter on a 40-yard off tackle smash by Matthews. FRM's attempted conversion failed and they led, 6 to 0, at the half. In the third a punt was blocked and Structures recovered on FRM's 15. On a sleeper play, Neff passed to Houbolt in the end zone for a touchdown; Bartone's drop kick was good for an extra point. Ochiltree in the fourth quarter carried Bartone's long pass over for the final score.

A surprisingly strong Tank team defeated PRT, 37 to 14. After a blocked kick, Tank scored first on a short pass from Zeck to Amole. Jarvis snagged a long pass from Zeck for the second tally. PRT counters with a 40-yard touchdown toss from Mastrocola to Marino. The kick for extra point was good. Tank increased its lead in the second quarter when Zeck made good a long pass to Walter. PRT scored on a 15-yard pass from Mastrocola to Dekoster and Mastrocola converted as the half ended. In the third quarter a pass carried the ball to the 2 and HacsKaylo went over for Tank. In the final quarter PacsKaylo skirted right end for another score and passed to Jarvis for the extra point. For the last tally, Freihofner caught a pass from Zeck.

Full Scale defeated West Area Shops, 19 to 7, scoring first on a pass from Brewer to Kinghorn. Sweberg skirted end for the extra point. Full Scale went into the lead, 13 to 0, when Sweberg passed over the goal. The conversion attempt failed. Full Scale scored again when Brewer recovered a fumble behind the goal line. West Area Shops scored in the fourth on a short pass from Paul Taylor to Moscater.

The 8-foot Tunnel topped AFR, 19 to 12, scoring first on a one-yard smash over center. Shortly afterwards, after a march down the field, AFR scored on a pass over center from Dawn to Turner. Neither conversion attempts were good. AFR took the lead in the second quarter when Brown ran a punt for a touchdown. Seven minutes remained in the game when Vincke slipped behind AFR's secondary and pulled in a pass from Mattson to tie the score. The 8-footers converted on a fake kick and pass to go ahead one point. In the closing moments of the tussle, Mattson intercepted a pass on the AFR 15 and galloped for the final marker.

In a game of tight defenses, Engineering Section emerged the winner by 2

points, Vern Ward being tackled behind his goal line after intercepting an Engineering pass. Both teams failed to make the most of several scoring opportunities. Cartabiano and Korycinski played outstanding for the losers in the backfield, while Turner turned in a nice line game. Nutter at leftguard was a star for Engineering's line, while Brown's passing was a constant threat.

The schedule: Nov. 14--16-foot vs. FRM; and Tank vs. AFR at Hampton at 11 a.m.; Structures vs. 8-foot at Wilson at 11 a.m.; West Area Shops vs. PRT at Wilson at 1 p.m.; Engineering vs. Full Scale at Hampton at 1 p.m. Nov. 21--West Area Shops vs. 8-foot; and Full Scale vs. AFR at Hampton at 11 a.m.; Structures vs. Engineering Section at Wilson at 11 a.m.; 16-foot vs. Tank at Hampton at 1 p.m.; PRT vs. FRM at Wilson at 1 p.m.

The standings:

Team	Won	Lost	Pct
Engr. Section	4	1	.800
FRM	3	1	.750
AFR	3	2	.600
Tank	3	2	.600
Structures	3	2	.600
8' Tunnel	2	2	.500
PRT	2	3	.400
16' Tunnel	2	3	.400
Full Scale	2	3	.400
W. Area Shops	0	5	.000

Training Engineers

(From page 1)

"Broadly speaking", the article says, "there is no doubt that America has been for some years more alive to the necessity of technical education. In the immediate pre-war years some 14,000 students graduated annually from engineering schools and American universities, of which ten per cent specialized on aircraft engineering". The article added that in 1942 over 1,400 took aeronautical degrees in America as compared with only 111 in England, including the Higher National Certificate students.

Mission Tours America

The statements concerning America were made by Sir Roy Fedden, a leading figure in British aeronautics, who had accompanied a British mission on a tour of American universities and saw the work that is going on in regard to the training of aeronautical engineers. He pointed out that, while realizing the shortage of manpower in England, and now much smaller is the population, nevertheless he submitted that aviation is such a vital matter and is going to play such an important part in peace negotiations and for the post-war years that it is absolutely necessary that England should have a proper nucleus of trained engineers.

REPRODUCTION GROUP

NOW IN ENGINE LAB

The Photo Lab, Reproduction, Blue Print Room, and Photostat have moved from their old quarters in the Technical Service and the Administration Buildings to the second floor of the remodeled Engine Research Laboratory Building, on the north side.

The ICI remains in the north wing of the Technical Service Building's second floor.

Keep Buying Bonds

ANNOUNCE FIGURES ON REGISTRANTS

There are at LMAL 959 active Selective Service registrants from 40 states and the District of Columbia; and 226 overage registrants, men between 38 and 45, from ten states and the District of Columbia, according to a recent survey.

The Active

The active registrants are distributed as follows: Virginia, 514; New York, 78; Pennsylvania, 36; North Carolina, 30; Massachusetts, 23; Georgia, 21; Illinois and Ohio, 20 each; West Va., 19; Michigan, 17; Indiana, 15; District of Columbia, 14; Iowa, 12; California and South Carolina, 11 each; Maryland and New Jersey, 10 each; Connecticut, Florida, and Rhode Island, 8 each; Louisiana and Nebraska, 5 each; Alabama, Kansas, Mississippi, and Tennessee, 4 each; N. Dakota, and Washington, 3 each; Maine, Missouri, New Hampshire, Utah, and Vermont, 2 each; Arkansas, Colorado, New Mexico, and Oklahoma, 1 each.

The Overage

The overage group hails from the following places: Virginia, 203; N. Carolina, 8; W. Virginia, 4; New York, Ohio and District of Columbia, 2 each; Delaware, Florida, Wisconsin, Pennsylvania, and Missouri, 1 each.

UNCLAIMED: Indie Atkins, Files, has some unclaimed items which have been found over a long period of time and turned over to her. They include two silver rings, one with red oval stone and the other with a square crystal set with insignia in the center; a pair of rimless glasses in a black case, keys, and a black Esterbrook fountain pen, the latter having been found last week.

COMMUNITY CHEST: A report shows that the Community Chest and War Fund drive at the Laboratory netted \$3,478.30, which included \$3,405.30 given in cash and \$73 in pledges.

Life At The Laboratory

LET'S HAVE A PARTY: Pay Roll had a surprise "housewarming" at Emily Bagnall's Nov. 3 for Helen McMichael, who has moved into a new home. Guests enjoyed laughing at Christine Reynolds and Marilyn Iawlor trying while blindfolded to feed each other bananas. A miniature house was built and filled with presents for Helen...The NACA Employment Office had a lunch-period party Nov. 8 for Sara Levine, Civil Service, who is joining her husband in Staunton...The Tank will have another one of its famous parties today (Nov. 13) at Oak Lodge...West Area Machine Shop employees had a big party at Oak Point last Saturday, starting festivities off with a buffet supper of hamburgers, hot dogs, buttered peas, potatoes, cole slaw and sliced tomatoes, with homemade pie for dessert. Gene Hicks furnished his sound system, which is available to other NACA parties, for dancing. The second shift arrived near midnight and a late supper was served. Our Machine Shop correspondent is wondering what Gene Hicks and Will Taub were doing in a tree overhanging the creek, at 10 o'clock; how 6-foot Karl Iambroff managed to fit into that 4-foot dinghy he was paddling around in; and how Jack Kinzler manages to keep the girls so happy? Newlyweds David McCraw and the former "Chick" Singleton joined the merry-makers, who numbered about 80. Since the party was such a success, the shop plans a New Year's Eve gathering.

MISCELLANY: Helen Banks, I Purchase, is at the Elizabeth Buxton Hospital in Newport News, recuperating from a recent appendectomy...Effa Campbell, I Purchase, has departed the Lab to be with her husband, who has been transferred to another Army post...Audrey Campbell, Editorial, is back at work following a recent illness at her home in Charlottesville...Jack Willis, Tank, recently bid au revoir to the Lab to join Uncle Sam's fleet...It is rumored that Ralph Avakian, Jerry Teplitz, Owen Deters, and Larry Fogarty, 19-foot Tunnel, are enrolling in a correspondence school law course...Carl J. Wenzinger, former head of the 19-foot Tunnel Section, visited the Lab recently in his new Navy uniform. He is assigned to the Bureau of Aeronautics...Other recent visitors included Walter S. Diehl, also of the Bureau of Aeronautics, and Charles E. Helms, Washington Office...Fay Byrne, an apprentice seaman at Bainbridge Naval Training Station, Md., was greeting old friends in the Instrument Service Section the other day...Elizabeth Budde, Pay Roll, has returned after extended sick leave...Free Flyers are planning to bar M. D. McKenney from the weekly football pool. He has already cleaned out half the staff...Howard Benny Miller, who left here Sept. 24, writes that he is now Private Miller, at the 301st Training Wing, Greensboro, N.C. ...Engineers who use the Library from now on will like the botanical atmosphere. The girls chipped in and bought some ferns and snake plants to make their surroundings more home-like. Joanna Bartoshesky, messenger, is recuperating at home after an appendectomy at Elizabeth Buxton Hospital.

THE DUCK'S BEST FRIENDS: J. Norwood Evans, the Personnel Section's self-styled duck-shooting artist, went on a recent duck hunting trip to Back Bay with William Herrnstein, office of the Engineer-in-Charge; Norman Smith, 8-foot Tunnel, Jack Willis, formerly of the Tank; Lloyd Fisher, Tank, and Kenneth Cummings, Hampton attorney. When asked how many ducks the party brought home, Norwood's answer was that the weather, in general, was very bad for hunters but exceptionally good for the ducks.

