

AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, SEPTEMBER, 1950

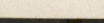
WILL YOU BE RECALLED? Read:
"MOBILIZATION NEWS"

The Latest From Reserve Hqs.



REPUBLIC'S F-84E

The Production Targets Are Two Years Away



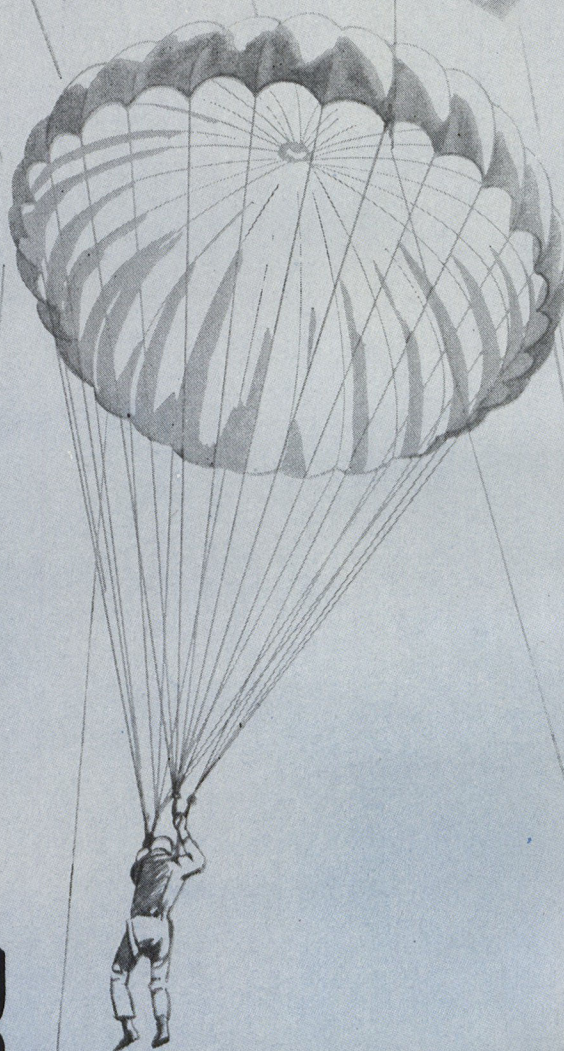
First in SAFETY

It's Sunday, June 29, 1935, at Stanley Switlik's summer place a few miles outside of Trenton. Here, today, are gathered some of the most famous people in aviation—among them, Amelia Earhart, America's great aviatrix. They are here to witness the first American demonstration of a parachute tower. The tower was designed by engineers of the Switlik Parachute Company in order to develop parachute mindedness in the public and to further safety in training.

The development was such a success that the armed forces adopted it as a fundamental part of their paratrooper training program.

It has even reached the amusement centers where parachute towers are providing an educational thrill to fast collecting crowds.

Still another first in Switlik's continuing research for greater safety.



SWITLIK

PARACHUTE COMPANY, INC.



LALOR AND HANCOCK STREETS, TRENTON, NEW JERSEY, U. S. A.



A SALUTE...

TO THE AIR FORCE...

For providing the nation with a skyborne arm ever ready to supply or defend or attack in the name of a free world. For its earnest efforts to improve its weapons by promulgation of the fore-runner of preparedness—research and development, of which Bell's X-1 is a significant example.

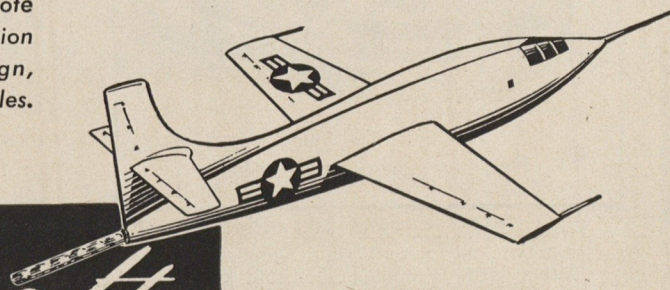
TO THE MEN OF THE AIR FORCE...

For courage beyond the call of normal duty in flying tomorrow's planes today... with a special bow in the direction of Capt. Charles E. Yeager, first man to exceed the speed of sound, and to all pilots of the U. S. A. F. who accept the challenges of sonic barriers or enemy aircraft with equal fearlessness.

TO THE AIR FORCE ASSOCIATION...

For persistent labor in behalf of aviation in general and "adequate airpower for national security", in particular... for its sponsorship of such outstanding events as the National Air Fair which serve to emphasize again and again the importance... yes, the necessity of aircraft and airmen—in peace, and in war.

★ By the pioneer of supersonic aircraft—remote controlled flight—jet and rocket propulsion—rotary wing aircraft—fighter design, armament and construction—guided missiles.



BELL

Aircraft
CORPORATION

Pan American Airways Stratocruiser

COST PER HOUR

\$550⁰⁰



Training in Flight in
The Boeing Stratocruiser

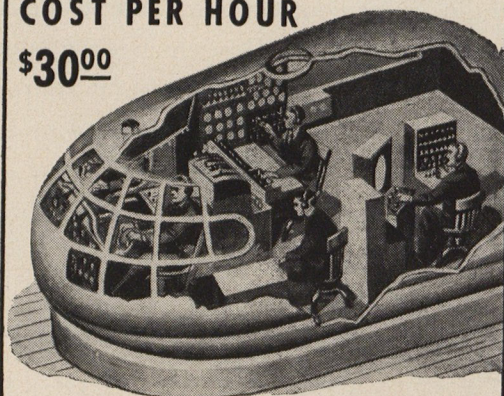
**Bring training costs
down to Earth**

- ▶ \$150,000.00 saved in the training of 56 Stratocruiser crews
- ... A 60 Percent reduction in overall training costs
- ... In-flight training time cut from 21 to 8 hours per crew.
- PLUS ... more thorough training and better crew coordination.

Curtiss-Wright-Dehmel Simulator

COST PER HOUR

\$30⁰⁰



Training on the Ground in
The Curtiss-Wright-Dehmel Simulator

▶ That is the 18 months' record of Pan American World Airways ... with a Curtiss-Wright-Dehmel Electronic Flight Simulator!

▶ The same superior results obtained by Pan American are available to all airline and military organizations. By Curtiss-Wright-Dehmel methods, the characteristics of *any type of aircraft* can be simulated realistically *on the ground* ... where crews may practice problems, too dangerous to create in flight, over and over again until coordinated response to emergencies becomes automatic.

▶ No longer is it necessary for the Armed Forces to delay training until the delivery of new tactical types ... or to tie-up operational aircraft for instruction. With Curtiss-Wright-Dehmel Flight Simulators, crews may be *pre-trained* ... and periodically checked for proficiency ... on the ground ... at lower cost ... with greater ease ... and in larger numbers.

For data on Curtiss-Wright-Dehmel Simulators write Propeller Division, Curtiss-Wright Corporation, Caldwell, N. J., on your company letterhead.

CURTISS  **WRIGHT**

SEPTEMBER, 1950 VOL. 33, NO. 9

THIS IS AFA

The Air Force Association is an independent, non-military, airpower organization with no personal, political or commercial axes to grind; established and incorporated as a non-profit corporation February 4, 1946.

Active Members are men and women honorably discharged from military service who have been assigned or attached to the US Air Force or its predecessor services, or who are currently enrolled in the Air Force Reserve or Air National Guard. **Service Members** (non-voting, non-office holding) are men and women currently assigned or attached to the US Air Force. **Associates** (non-voting, non-office holding) are men and women not eligible for Active or Service Membership who have demonstrated an interest in furthering AFA's aims and purposes, or in proper development and maintenance of US airpower.

ITS OBJECTIVES

To preserve and foster the spirit of fellowship among former and present members of the Air Force, and to perpetuate the identity and group solidarity of wartime Air Force units large and small.

To assist in obtaining and maintaining adequate airpower for national security and world peace.

To keep AFA members and the public at large abreast of developments in the field of aviation, and to stimulate community interest in Air Force activities and installations.

ITS OFFICERS AND DIRECTORS

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THE COVER

The Republic F-84E is the hardest shootin' fighter airplane ever assigned to duty with the Air Force. It can carry 32 5-inch rockets in addition to six M-3 type .50 calibre machine guns. Moreover, it has the astonishing combat radius of a thousand miles with two wing tanks. If armament is sacrificed, the plane can carry four wing tanks increasing the range even more. It is one of the planes now on order to bring the AF's strength to 69 groups. READ "WHERE DO WE GO FROM HERE BOYS?" Page 21

AIR FORCE STAFF

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WILLIAM A. DEAN, Art Director

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CHARLOTTE KNIGHT, Far East Correspondent

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Manufacturing a

Size, speed, range, payload and power of military and commercial aircraft have increased tremendously in the past two decades. And each new installation has required a more complex, more efficient propeller.

This steady progress in the propeller art has multiplied the problems of the manufacturer a thousand-fold. So, we'd like to tell you a little of the story of these problems as they are handled by Hamilton Standard, the nation's leading supplier of propellers.

Here's one simple measure of the growing complexity of the task. From 1930 to 1950, the number of pieces in a typical propeller assembly increased from 29 to 2,220. In the same period, the number of man-hours required to turn out one propeller went up to 1,100%.

This evolution of the propeller from a simple product to a highly complicated mechanism has called for progressively better machines and new manufacturing techniques. Many of these techniques and machines are unique in all industry.

In addition to its complexity, its watch-like precision and its delicate balance, each propeller installation must be improved almost constantly to keep pace with the advances in aviation. This requires continual readjustment of production lines and new tools. And all of this must be done without disrupting delivery schedules.

Beyond all this, the production team must make a multitude of blade and hub combinations because each new airplane type demands a propeller different from any other. To meet airplane manufacturers' requirements, Hamilton Standard is equipped to manufacture propellers ranging from 7 feet in diameter to 20-foot giants, and capable of absorbing from 185 h.p. to 10,000 h.p.

Hamilton Standard accomplishes all these difficult tasks efficiently and economically, even in relatively low volume operations, through the use of highly flexible production processes. They include machines that are standard in industry, special-purpose, high-production machine tools, and revolutionary new ones peculiar to propeller making.

It takes a competent, well-integrated team of tool designers, production engineers, purchasing and traffic experts, machine operators, inspectors, machine maintenance specialists and many other technicians to keep production flowing smoothly. Hamilton Standard's position in the industry is a tribute to the skills of its production team.

modern propeller

WHICH OF THESE MATERIALS ARE USED IN A PROPELLER ASSEMBLY?

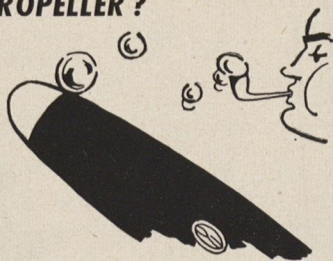
- ☐ Rubber?
- ☐ Glass?
- ☐ Nylon?
- ☐ Silver?



Hamilton Standard's hollow steel propeller, one of the most notable advances in aviation history, is compounded of more than 50 materials, including all those listed above. A synthetic rubber with a nylon flock filler serves as a stiffener in the hollow steel blade. Glass? Glass cloth is used to hold resistance wires in place for blade de-icing. Silver? Silver alloy is the brazing material that joins shell and core of a hollow steel blade. Aluminum alloy, copper and silver alloys, steel, leather, brass, lead, zinc, cadmium, solid and foam plastics are among other propeller materials. It takes a wide variety of machines and equipment to process them, but most important ingredient of all is the skill of the employee with the knowledge to process these materials.

HOW MUCH STATIC UNBALANCE IS ALLOWED IN A 16 1/2 FOOT PROPELLER?

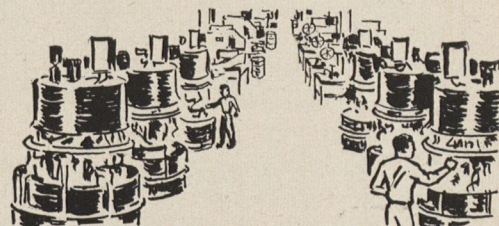
- ☐ 5.0 Inch-pounds?
- ☐ 3.0 Inch-pounds?
- ☐ 1.0 Inch-pound?
- ☐ .7 Inch-pounds?



The amount of unbalance permitted varies with each propeller and each blade. But it is very small in every installation, regardless of size or weight. For example, one of Hamilton Standard's propellers has a diameter of 16 feet 6 inches and weighs about 700 pounds. Yet its static unbalance cannot exceed seven-tenths of an inch-pound. This is equivalent to about 1/10 of an ounce applied at the tip of the blade. But testing for static balance alone is not enough. In addition, every propeller off the Hamilton Standard production line must be carefully balanced both dynamically and aerodynamically.

HOW MANY MACHINES ARE USED BY HAMILTON STANDARD'S PRODUCTION TEAM?

- ☐ 323?
- ☐ 523?
- ☐ 723?
- ☐ 923?



New tools, new facilities are needed constantly to maintain leadership in an industry that moves as fast as aviation. In addition to thousands of hand tools, Hamilton Standard has, at the moment, 923 machines to produce its numerous, tailored propeller installations. They range from standard tools used in all industry to such tools as two-story-high lithium furnace-presses and a large special tube reducing machine which is unique in manufacturing. Many of Hamilton Standard's tools are designed by its own engineers. There is a constant problem of machine obsolescence, dictated by the need for better machines. Hamilton Standard, therefore, has a highly skilled staff that knows exactly when it pays to buy a new machine, to adapt an old one to do a different job, or to figure out a new one.

HOW MANY SUBCONTRACTORS AND VENDORS SELL PRODUCTS TO HAMILTON STANDARD?

- ☐ 94?
- ☐ 194?
- ☐ 994?
- ☐ 1,494?



In addition to its own manufacturing facilities, Hamilton Standard depends on the special skills and manufacturing techniques of many subcontractors and vendors who supply materials and parts for its propellers. Through close cooperation and the constant interchange of production "know-how", Hamilton Standard has developed a team of highly skilled suppliers, who contribute importantly to our current production and comprise a valuable nucleus for expanding output in the event of a national emergency. All told, there are 162 manufacturers, both large and small, who provide us with some manufactured parts for propellers. In addition, there are 1,332 other businesses from whom we buy a wide variety of other goods and services.

HAMILTON STANDARD
EAST HARTFORD, CONNECTICUT
ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION



a
Great Name
Carries On..

WARNER!

FOR years, the Aviation Industry has respected the name "Warner" in aircraft hydraulics.

Always it has meant quality and precision work of the highest calibre.

Now, reorganization has breathed new vitality into its research, management and production.

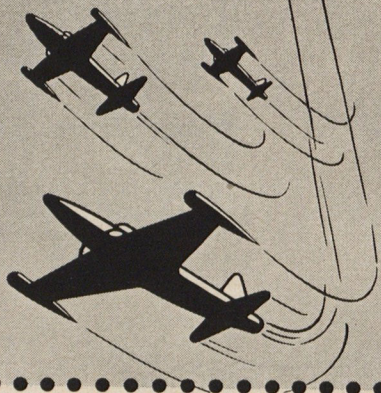
Warner is in the Aviation Industry to stay.

It continues as always to make its famed Hydraulic Valves.

Besides this new leadership, the only change is from the name Warner Aircraft Corp. to Warner Division, Clinton Machine Company.

You can expect even greater things from Warner—sound improvements, finer products—

Products worthy of carrying on the great name they bear!



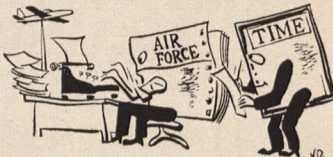
Warner
DIVISION
Clinton Machine Company

20263 Hoover Rd. • Detroit 5, Mich.

AIR MAIL

Funny Coincidence

Gentlemen: While thumbing through TIME Magazine's issue of July 24th, I was stopped cold by a feature on page 57 called "Birth of a Bomber." The story had to do with the B-47 and how it grew. The reason it stopped me cold was that I had just finished reading virtually the same story in my copy of



AIR FORCE Magazine, July issue, which reached me long before my copy of TIME. It couldn't be that TIME "borrowed" the story, could it?

Douglas Dean
Denver, Colorado

• It could.

August Jackpot

Gentlemen: I have just read Charlotte Knight's "Air War in Korea" in your August 1950 issue. To my way of thinking this is the best (because it is the most comprehensive and realistic) account of the Korean War which I have read. My congratulations to you for this fine article and to Miss Knight for her excellent reporting ability. Please send me an application blank for membership in the Air Force Association.

William H. Dorsey, Jr.
Washington, D. C.

Gentlemen: The last issue of AIR FORCE Magazine was one of your finest, and I was particularly impressed by the force, authenticity and timeliness of Charlotte Knight's story on the Korean situation. She did an outstanding job of reporting. I think congratulations are due Miss Knight.

Bert D. Lynn
Los Angeles, California

Gentlemen: My congratulations to you on your splendid editorial in the August issue of "Air Force" Magazine. To me it is one of the outstanding editorial pieces on the "Korean-World" situation yet published. Keep it up!

Richard N. Luzier
Kansas City, Missouri

Gentlemen: I want to commend your magazine on the fine article "Air War in Korea" by Charlotte Knight. Of all the magazines and newspapers I subscribe to, AIR FORCE Magazine is one of the most informative. This on-the-spot news

report is one of the best I have ever read in this war or the last one.

Charles H. McKinney
Chatanooga, Tennessee

Gentlemen: I have received the current issue of AIR FORCE Magazine, and have read the article by Charlotte Knight on the Air Force activities in the Korean War. It is a ten strike.

Hans Christian Adamson
New York, New York

Gentlemen: I am just a cog in the aircraft industry but find AIR FORCE Magazine very helpful in keeping up with new ideas and problems. The Air Force Association is to be congratulated for editing and publishing such a periodical. Your efforts toward obtaining a strong air-minded nation are to be praised. We, as members, in our daily conversation can and do much toward furthering the program.

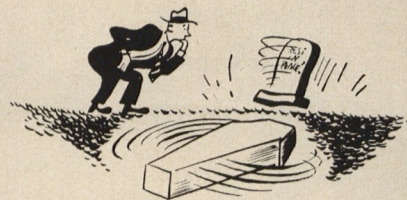
Joseph D. Myers
Burbank, Calif.

Gentlemen: Last issue of AIR FORCE Magazine with its story on Korea by woman author, Charlotte Knight, was terrific. Here's my continuing support.

Thomas E. Oakes
New York, N. Y.

Gentlemen: I would like to compliment you for the excellent August issue of AIR FORCE Magazine. The feature article by "our girl," Charlotte Knight, was by far the most informative and interesting story on the Korean War I have yet read.

John Mulvihill
Chicago, Illinois

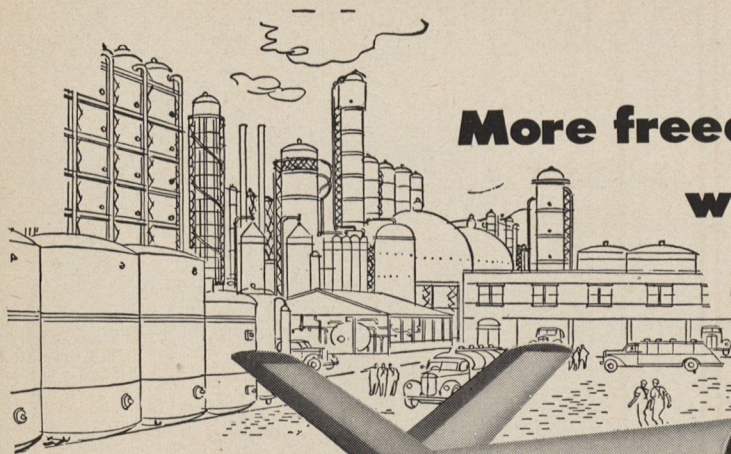


AWOL Dictionary

Gentlemen: As a Displaced Yankee let me voice my great hurt at your publicizing the coming convention in Boston in your June issue by referring to Faneuil Hall as Faniell Hall. Old Peter F. is probably spinning in his grave right now. And furthermore, Scully Square is okay for some itinerant "swabbie" but for the rest of us please make it Scollay Square, okay?

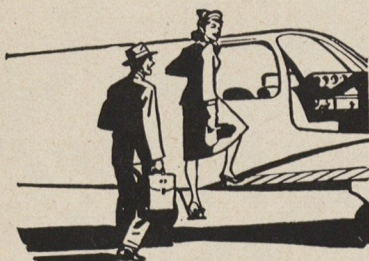
William E. McLellan
Lynchburg, Virginia

• Okay.



**More freedom for business action-
with a company-owned**

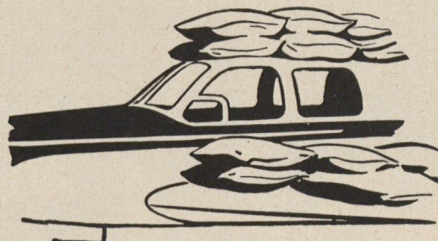
Beechcraft



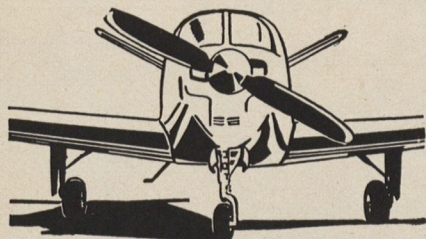
You make more calls when you cruise at a 170-mile clip. No wasted time, no wasted effort. Travel means more! Minutes in the air pay you back with hours of productive time.



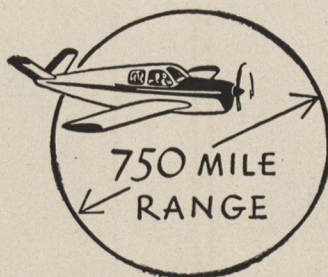
You get to where the business is in luxurious comfort. Room to spare for four big people in the smartly tailored, quiet Beechcraft Bonanza cabin. Maximum 5-way visibility.



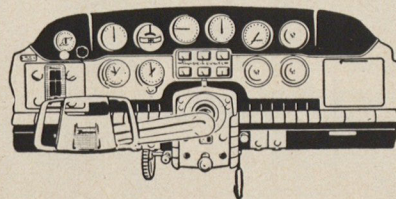
You travel in safety. The B35 Beechcraft Bonanza is extra rugged, withstanding shock and stress tests far surpassing CAA requirements. All-metal construction.



You get top performance. Flight characteristics make it exceptionally easy to handle. Speed, range and fuel economy unexcelled! Wide, sturdy landing gear smooths out short, rough-field landings.



You get amazing efficiency. At cruising, the Beechcraft Bonanza uses only 56% of the engine's rated take-off horsepower! And fuel consumption is low—amounting to only 9.5 gallons per hour!



You enjoy many extra features. For instance, a functionally designed instrument panel, highly efficient . . . but handsome, too! Touches of luxurious comfort everywhere—even to coat hangers, ash trays, map pockets!



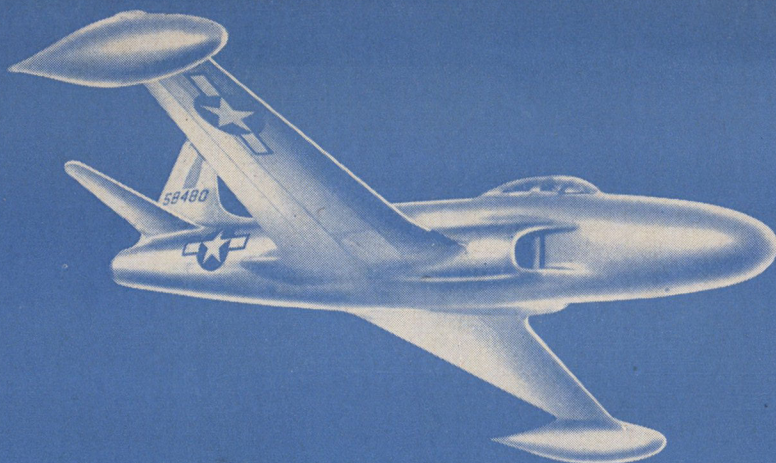
Get all the facts! There are hundreds more . . . about the extra advantages of the new Model B35 Beechcraft Bonanza. Check with your nearest Beechcraft distributor or dealer, or write for complete information on your company letterhead to Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

Top speed, 184 mph
Cruising speed, 170 mph
Range, 750 miles
Fuel economy, 9.5 gph

Beechcraft

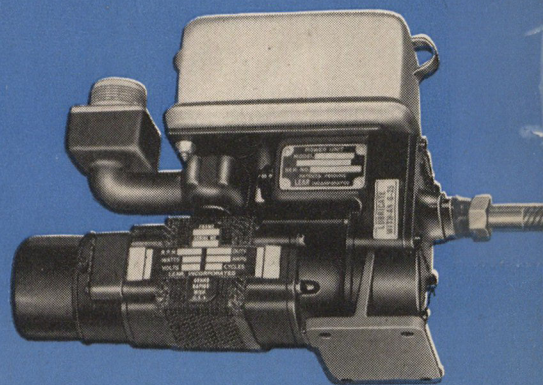
BONANZA

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

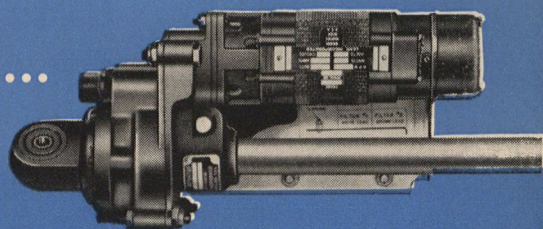


Every Lockheed jet in service

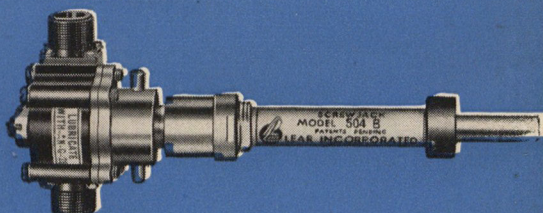
uses LEAR power units...



LEAR linear actuators...



and LEAR screw jacks...



to actuate wing flaps,

aileron trim tabs, and rudder trim tabs



Every jet airplane built by Lockheed in production — which means every F-80, every F-94, and every T-33 — is equipped with Lear electro-mechanical systems. Like Lockheed, many other aircraft manufacturers who know the value of experience, service, and proven dependability, have found that it pays to standardize on Lear.

LEAR INC., GRAND RAPIDS, MICHIGAN

Lear-Romec Div. Elyria, Ohio • LearCal Div. Los Angeles, Calif.

Electro-mechanical control and servo systems • Pumps and valves • Autopilots and gyro instruments • Electric motors • Aircraft radio • Automatic electronic controls.



AIRPOWER IN THE NEWS

VOL. 33, NO. 9

WASHINGTON, D. C.

SEPTEMBER, 1950

KOREAN SITUATION has begun to show effects on Industry. Several thousand additional employees will be required within next several months at plants of Boeing Airplane Company in Seattle and Renton, Washington and Wichita, Kansas, William M. Allen, Boeing President, announced recently. He said that "letters of intent" received from USAF authorized start of work on "substantial additional quantities" of Boeing Military Aircraft at these plants. Effective July 25, approximately 4,000 of the 8,000 personnel at Consolidated Vultee, San Diego division, began operating on a two 10-hour shift basis, Monday through Friday. Intense speedups also underway in other companies.

AFA'S CHAIRMAN OF BOARD C. R. SMITH is serving for two months as a three-day-a-week consultant on transportation matters for the National Security Resources Board, reporting directly to Chairman W. Stuart Symington.

USAF WILL BE INCREASED from its present 48 groups to a total of 58 groups within a year and to a total of 69 groups within 30 months, according to Chairman Carl Vinson of House Armed Services Committee. These figures were given to House Committee by Sec'y Finletter and Gen. Vandenberg. AF will have 548,311 personnel by 1953, according to Mr. Vinson.

VETERANS who have started GI Bill studies and interrupt them to go back into active military service will not be bound by the July 25, 1951, cut-off date for returning to training, Carl R. Gray, Jr., head of VA, ruled recently. Instead, Mr. Gray said, they'll be allowed to resume their training within a "reasonable period" following their release from active service, even though they get out after the deadline date.

CIVILIAN FLIGHT-TRAINING STAFFS FOR PILOT-TRAINING PROGRAM will be used by USAF in its anticipated increased pilot-training program. . . To expedite the training of specialists for USAF needs in Korea, AF Headquarters has placed most of its Air Training Command schools on a six-day week basis.

AF AND NAVY WILL CONDUCT JOINT PRIMARY-BASIC TRAINER EVALUATION beginning this Fall for purpose of developing the best possible primary-basic training aircraft suitable for both services.

WAF RESERVE PERSONNEL, officer and enlisted, will be included in current USAF recall of reservists to active duty, both on a volunteer and non-volunteer basis, AF Headquarters has announced. . . Strength of WAFS will be increased by several thousands by January 1, 1951, to meet increased USAF needs within continental U.S. . . AF plans to recall only those Reserve medical officers for which a specific need and vacancy exists, and will limit its medical recall program in order to prevent a drain upon the medical specialists required for civilian health needs.

CONVERSION OF FIRST B-36A BOMBER into an RB-36 reconnaissance airplane has been completed, officials of CONVAIR disclosed recently in Fort Worth. . . The two-place jet interceptor fighter F-97A has been redesignated the F-94C; the newly designated F-84F, a swept-wing version of F-84 "Thunderjet" fighter, was formerly the YF-96A; and the F-86D, an interceptor version of F-86 "Sabre" jet fighter, was previously called the F-95A.

A BILL WHICH WOULD RESTORE WORLD WAR II EXEMPTIONS IN SERVICEMEN TAX has been

AIRPOWER IN THE NEWS CONTINUED

introduced by Rep. Sutton (D., Tenn.). Sutton bill would give commissioned officers an extra \$1500 tax exemption and free all service pay of enlisted and warrant personnel from federal income tax. . . House and Senate Armed Services committees have begun study of restoring family allowances to Reserve and Guard personnel called up during present emergency.

COL. PAUL W. TIBBETTS, JR., the pilot of the B-29 which dropped the history-making atom bomb on Hiroshima, has arrived in Wichita to take over an important AF assignment at Boeing. He will direct a service test program formulated to determine operational capabilities of Boeing B-47 Stratojet.

50 AF RESERVE CHAPLAINS in the grades of First Lieutenant and Captain and under the age of 42 will be recalled to duty involuntarily, according to Gen. Carpenter, chief of AF Chaplains. . . Suspension of appointments of Judge Advocate General officers in AF Reserve was lifted on August 2.

MAJ. GEN. RALPH F. STEARLEY, former commander of Fourteenth Air Force, is now Commanding General of Twentieth Air Force, Okinawa. Maj. Gen. Otto P. Weyland has been assigned as Vice-Commander for Operations of FEAF.

CRAIG AF BASE, ALA., SOON WILL BE ADDED TO LIST OF AIR TRAINING COMMAND BASES, and for first time in several years flying training will be resumed at Craig. Combat crew training for B-29's is to begin at Randolph AFB, Tex.

DESIGNATION OF LONG-RANGE PROVING GROUND AT COCOA, FLA., AS PATRICK AFB in honor of Maj. Gen. Mason M. Patrick was announced recently by USAF. . . A private corporation has been formed which is under contract to AF to manage and operate the Arnold Engineering Development Center, now being constructed at Tullahoma, Tenn. The new corporation was established by architect-engineering firm of Sverdrup and Parcel, Inc., of St. Louis.

A PROPOSED NON-STOP RECORD FLIGHT OF NEW CANADIAN JET FIGHTER, the Avro Canada CF-100, across the Atlantic to UK has been canceled because of plans to accelerate aircraft production in Canada, Canada's Dept. of National Defence has announced.

FOLLOWING MEDALS FOR PARTICIPATION IN KOREAN ACTION are authorized for presentation by CG, FEAF: Silver Star, Distinguished Flying Cross, Soldier's Medal, Air Medal, Bronze Star, Commendation Ribbon, and Purple Heart. Defense Department is studying the possibilities of awarding a campaign ribbon for participation in Korean operations. The possibility of temporary promotions is also under study.

THE FOOT SOLDIER OF FUTURE WILL HAVE WINGS INSTEAD OF WEB FEET, and his equipment, almost to the last piece, will fly with him, according to Maj. Gen. James M. Gavin, USA, in an interview in August issue of The Martin Star, publication of Glenn L. Martin Co. General Gavin was World War II Commanding General of the famed 82nd Airborne Division.

USAF RESERVE OFFICERS' COMMISSIONS and Reserve airmen enlistments are automatically "frozen" the same as Regular AF personnel by a directive issued by President Truman.

AF CONTRACT has been signed for a substantial additional number of Fairchild C-119 Packets, twin engine troop and cargo transport planes, Ben. O. Howard, General Manager of Fairchild Aircraft Division, announced recently.

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CLASSES A-1 and A-2

● Designed especially for pilots and other flight crew members of the REGULAR military services, who are engaged in military flying activities as a full-time occupation. A-1 covers accidental death and loss of sight or limb from any cause, including military or civilian accidents, on land or sea or in the air, world wide. A-2 offers the same accidental death coverage as A-1 but does not cover loss of sight or limb.



CLASSES B-1 and B-2

● Designed especially for pilots and other flight crew members in the RESERVE military services, whose flying activities are part-time (generally limited to weekends and the two-week annual military service period). B-1 covers all types of accidental death, whereas B-2 is limited to death from aviation accidents only. B-1 also has broader loss of sight and limb benefits than B-2 (see chart).



CLASS C

● Designed for all persons who are not flying personnel and whose participation in aviation is limited to traveling in aircraft as passengers or to working in or around aircraft on the ground. Death or injury from every type of non-aviation accident, and from certain types of aviation accidents, is covered (see chart).

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"If You Fly You Need AFA Accident Insurance," says

GEN. JIMMY DOOLITTLE

THOSE OF US who fly military aircraft, as pilots or passengers, on daily missions or week-end assignments, know better than anyone the risks involved.

We accept those risks. It is quite another thing for us to ask those who are dependent upon us to accept them.

Airmen can live by the numbers, by a philosophy that says, come what may, we'll pull through the tightest spin and the roughest weather—until our number is up.

We cannot forget that our number hangs heavy over the heads of our dependents — our wives, children and parents, as the case may be. We have an obligation to give them the protection they deserve.

Accident insurance is a logical form of protection against the risks of military aviation. Group accident insurance makes possible maximum protection at minimum cost. It is natural that those of us who have grouped together in Air Force Association should take advantage of these benefits.

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CLASS OF POLICY	PERSONS ELIGIBLE: All AFA members and associates (other than paratroopers and air- borne infantry) except as follows:	SCOPE OF POLICY COVERAGE (indicated by √)						ANNUAL PREMIUM PER \$1,000
		Death Benefits			Loss of Sight or Limb Benefits			
		Military Aviation Accident	Civil Aviation Accident	All Other Accidents	Military Aviation Accident	Civil Aviation Accident	All Other Accidents	
A-1	No exceptions	√	√	√	√	√	√	\$15.00
A-2	No exceptions	√	√	√				13.80
B-1	Flight-rated REGULAR military personnel not eligible (see note 1)	√ (see note 2)	√ (see note 2)	√		√ (see note 2)	√	7.20
B-2	Flight-rated REGULAR military personnel not eligible (see note 1)	√ (see note 2)	√ (see note 2)			√ (see note 2)		4.80
C	FLIGHT-RATED Regu- lar and Reserve mili- tary personnel not eli- gible (see note 1)	√ (see note 3)	√ (see note 3)	√	√	√	√	3.00

NOTE 1: "Flight-rated personnel" means pilots, co-pilots, navigators, flight engineers, radio operators, bombardiers, aerial gunners, and similar flying personnel of the military services or their reserve components.

NOTE 2: Class B-1 and Class B-2 policies expire with respect to aviation accident coverage if the insured person serves 120 days, consecutively or non-consecu-

tively, on active military duty during the policy period; but Class B-1 coverage continues in effect thereafter for other types of accidents.

NOTE 3: Class C coverage does not apply to accidental death of the insured person on an aircraft unless he is on such aircraft as a passenger or in the course of his employment as ground crew or administrative personnel.

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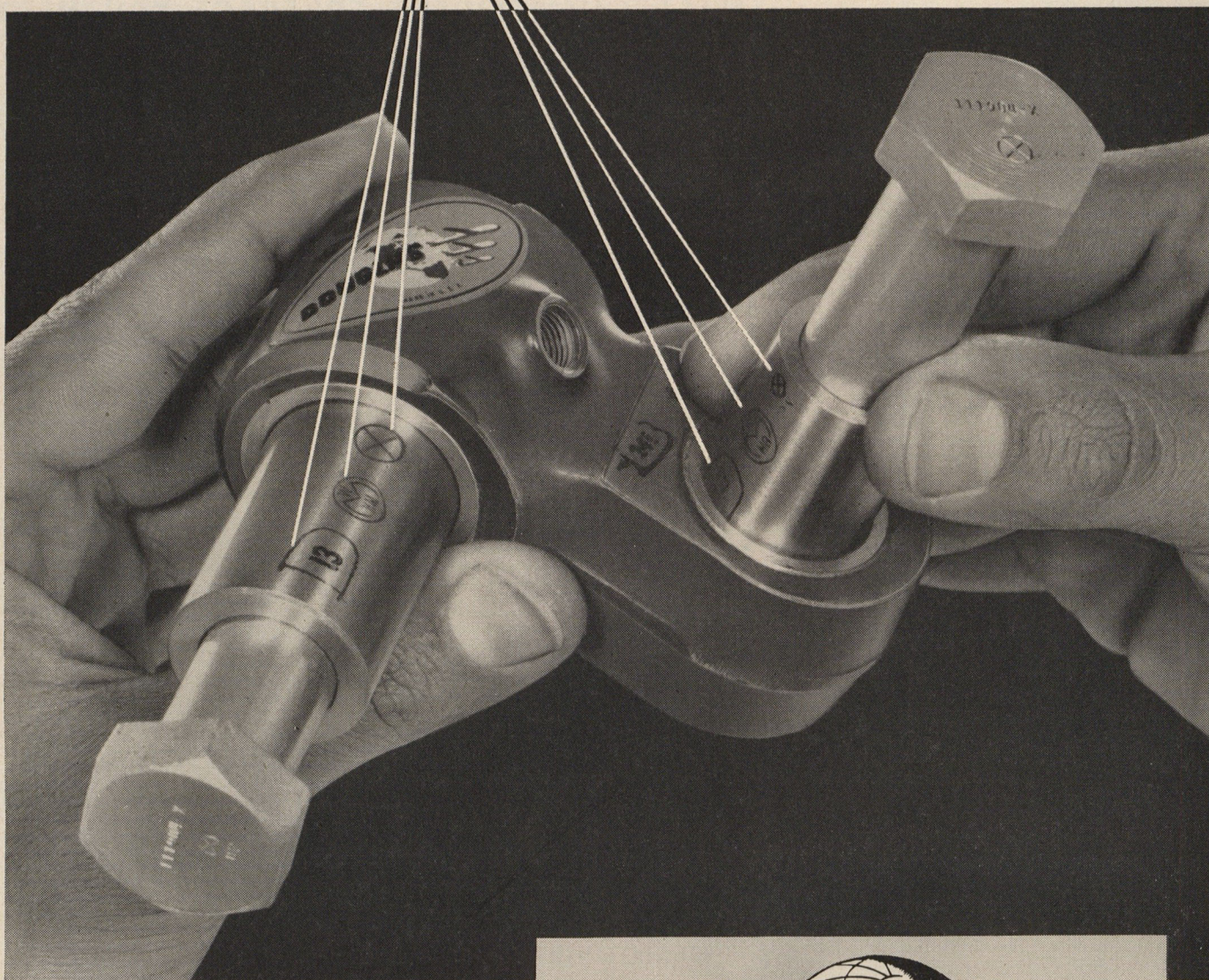
In aircraft operation efficient maintenance often represents the difference between profit and loss—and that's where spare parts fit in.

Bolt... supercharger... complete wing assembly—whatever the spare part needed—you'll find that Douglas Genuine Spares fit perfectly every time. Every Douglas part is inspected before it leaves the plant—guaranteed to do the job better.

Over 60% of all Douglas spares are available for immediate shipment. Our customer men give personal attention to your requirements. In addition, Technical Data and the assistance of Douglas Field Representatives are provided to help you realize maximum utility of your Douglas aircraft.

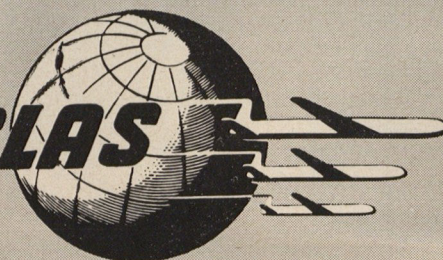
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THE DC-6 FLAGSHIP

First really new post-war transport, offers a new concept of passenger luxury on long distance travel.



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Provides on short trips the kind of speed and comfort hitherto restricted to distant travel.

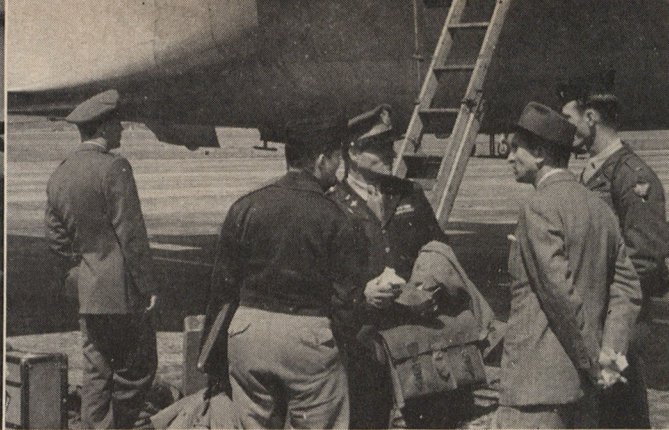
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These two great aircraft form a five-mile-a-minute Flagship Fleet that is unrivalled in safety, comfort and luxury. Wherever you go... however long or short your journey may be... when you fly the route of the Flagships you are experiencing air travel at its finest.

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Some of the 130 AFR personnel assembled at Rhein Main Airport for a training flight to England. About half wore uniforms. The others found that theirs had become mysteriously too small.



Facing the camera is Lt. Col. John Butterwick, who made the sentimental journey. It wasn't until later that he realized how near he would be to his old stamping grounds.

SENTIMENTAL JOURNEY

By Laurence P. Bachmann

For some of the 130 U. S. Air Force Reserve personnel stationed in Germany, the training flight was a chance to get away from the routine of administering German civil affairs; for others it was an opportunity to see England for the first time; and for at least one man, Lt. Col. John A. Butterwick, it was truly a sentimental journey.

The reservists (128 men and two women) came from all parts of the American zone to the Rhein Main Airport early one Friday morning and were taken in tow by Capt. W. A. McLaughlin, Chief, Air Reserve Training Br., Dir. Operations and Training, Hq. USAFE, who had four C-54s waiting and ready. Two hours after takeoff they set down at a B-29 base at Lakenheath in East Anglia, England.

After a quick lunch there was a briefing in the usual quonset hut by the Air Base Commanding Officer, and by the staff of the B-29 group currently training at the base. The CO clearly outlined the problems and solutions of joint USAF housekeeping on the air base,

and the Operations Officer of the visiting B-29 group gave a thorough briefing on the various types of practice missions. This was followed by a complete briefing by the entire staff who spoke as though the quonset hut were not occupied by men whose uniforms had shrunk mysteriously during the past five years, but by crews actually flying the super-forts today.

After the briefing the visitors went down to the airfield to go through the planes and be brought up to date on new equipment and modifications. It was during this period that Colonel Butterwick, former assistant A-2 of the 3rd Air Division made his nostalgic trip.

Butterwick is presently the Deputy Intelligence Chief of HICOG in Berlin. (HICOG is the Office of the High Commissioner in Germany.) In this job Butterwick works on the civilian aspects of intelligence for Maj. Gen. Maxwell D. Taylor, the U. S. Commander in Berlin. But from 1943 to 1945, Butterwick was stationed just four miles from Laken-

(Continued on page 48)



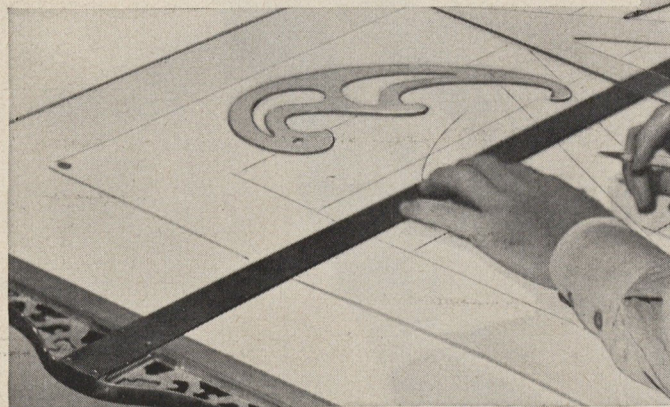
Butterwick sees for the first time the lovely stained glass window erected in memory of men of his air division killed in action.

Up the long, deserted drive to Elvedon Hall, strolls Butterwick and a friend. In bygone years, this was a bustling USAF headquarters. Today, a visitor can be alone with his memories.

Butterwick's pilgrimage to the old chapel and headquarters was made easier by the cooperation of the RAF which loaned him a lorry for a brief but satisfactory visit.



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Airmen are Select men!



U. S. AIR FORCE



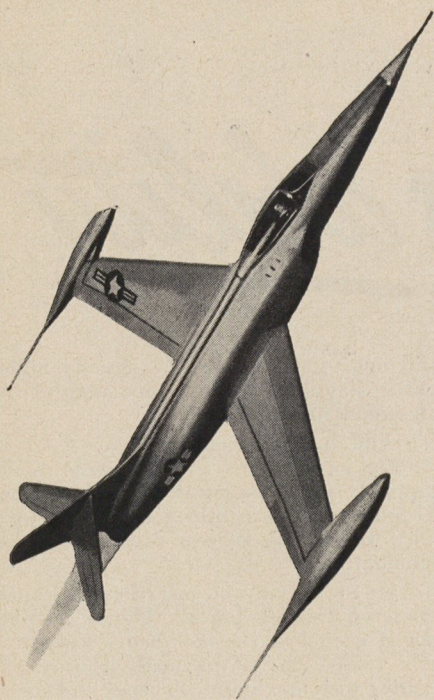
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WHAT TIME IS DEFENSE?...



LOCKHEED F-90



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A great airplane is more than swept-back wings and a Mach number.

It is a product of plans and planning... of vision and action... of ingenuity and skill.

It begins with America's determination to remain free. This ideal, forever foremost, requires a vigilance, forever active. It inspires our Air Force to constant research and planning. It stimulates American industry to unmatched invention. And it draws from free American labor vastly superior skills and energies.

But, above all, a great airplane is the product of time—time in research, time in planning, time in designing, developing and building. You can't put time in moth balls, nor buy it back from surplus. Today's new planes were yesterday's plans. Tomorrow's Air Force is being planned today.

Defense is a constant challenge, efficiently accepted and dynamically answered by the U.S. Air Force. The Lockheed F-90 Jet Penetration Fighter, ready for production today, is the product of planning that began more than five years ago.

LOCKHEED

Aircraft Corporation, Burbank, California

Look to Lockheed for Leadership in Jets

TECH TALK By Douglas J. Ingells

Indicative of the AF's interest in the future of the helicopter are two new rotor test stands now nearing completion at Wright Field. Outdoor whirl test rigs, the new facilities are designed to test rotors of all sizes. One has a stationary mount for whirl testing the rotors; the other is an enclosure which permits the rotors on a helicopter to be tested on the ground. . . . Nearby is a new building which will house shops where fabrication work on rotors and other auxiliary equipment will be done . . . Both facilities are expected to go into operation sometime around the first of the year.

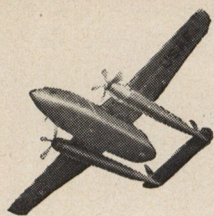
The propeller laboratory at Air Materiel Command is also building a new whirl test rig for testing high-speed, subsonic and transonic propellers and compressors for turbine engines . . . It will have a 30,000-horsepower electric motor to whirl the blades. This is triple the power available on three whirl test stands now in use.

Armament experts have revealed that they are working on 20-mm cannon installations for one of the latest fighter planes. . . . A new armament laboratory firing range at Wright Field permits wheeling up a fighter plane and firing its guns "inside a building." . . . Modifications are also being made to improve the big 500-yard outdoor range here . . . It is not to be used for rocket firing tests, anymore. Recently one of the rockets "ate" its way through the block-long hill which serves as a backstop, came out the other side and plunked into the ground near a parking lot!

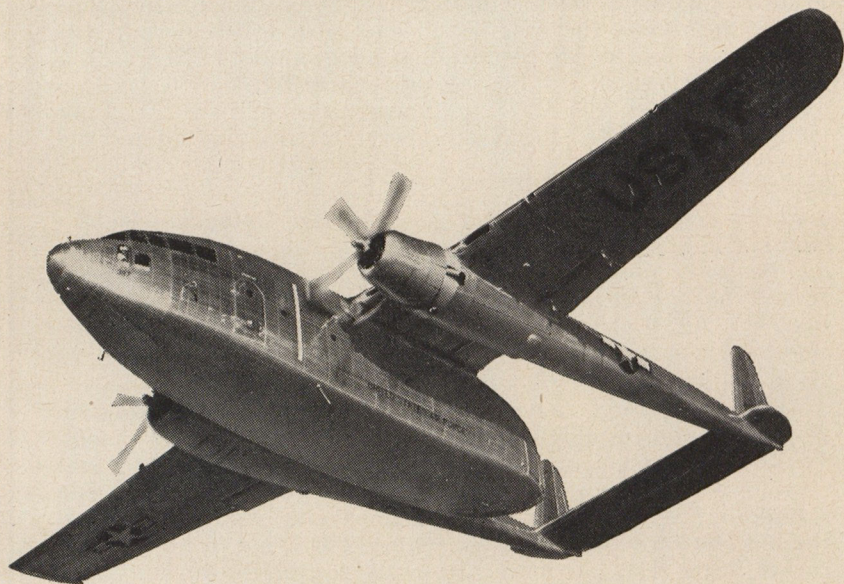
Aero-Med engineers and researchers at Wright Field are running a series of experiments in a special sound room . . . They are trying to find out the harmful effects of various types of sound . . . They will tell you that in this room they can create enough sound to kill a man . . . Already these people have designed special helmets and communication devices to whip a problem that has come with the jet age—how to permit ground-crewmembers who work on the jets on the ground to talk with one another. Studies reveal that working around the powerful jet engines literally deafens the mechanics.

Merging of two sections at Wright Field in the organizational set-up of the Engineering Division has put a new emphasis on the importance of AMC's role in the guided missile program . . . Aircraft Projects Section and the Guided Missile Section have become one unit—Aircraft and Guided Missiles Section. "The two got so closely related we had to marry them," one engineer explained . . . At the same time missile people here revealed they now have a "controlled aircraft which can be loaded with explosives and fly some 5,000 miles." In effect it is the first of the long-range "guided missiles."

A battle of thrustpower which has been raging between the axial flow jet engines and the centrifugal flow type is just about over according to Powerplant Laboratory engineers at Wright Field . . . The future experiments and concentration will be on the axial-flow engine . . . Admittedly, however, it is the most difficult to produce . . . The powerplant engineers also claim they are working on only one "live" project which involves the reciprocating engine. That's the "4360" that is going into the B-50 and the B-36 . . . All of the rest of the work centers around the various jet types.



Assault TRANSPORT *ability*



- Add one more use for the already highly versatile Fairchild Packet—its adaptability as an assault transport.

- Fairchild has just converted one C-82 for Air Force evaluation . . . more can be modified quickly and economically. The larger and more powerful Fairchild C-119's perform equally well in this newest assault transport assignment.

- Moving swiftly in and out of small, rough, unprepared fields—directly behind combat troops if need be—the modified Packets can handle 16,000 lbs. of payload, loading and unloading with maximum efficiency and speed. The Packet's ability to haul men and material equals its pre-eminence in dropping paratroops and cargo.

- Only the Fairchild Packets, designed and manufactured to meet the many and complex problems of air support and supply, can so completely fill this military requirement for a versatile assault transport.



ENGINE AND AIRPLANE CORPORATION

FAIRCHILD

Aircraft Division

HAGERSTOWN, MARYLAND



AIR FORCE
SEPTEMBER, 1950



Where Do We Go From Here Boys?

What has the war in Korea done to the strategy of intercontinental war? Must we redesign our military forces to fight the kind of war Russia wants? Can the aviation industry turn out the planes fast enough? What kind of planes will they be, and will there be raw materials enough? In brief, where do we go from here, boys?



In Korea, September was the traditional month for the fog to lift. The men of the Far East Air Forces waited anxiously and hopefully.

But in Washington, D. C., where there was a similar climatic condition, there was no such tradition about September. When the domestic fog would rise was anybody's guess. What it would reveal was another unknown. The people on the home front were as anxious to get on with things as the soldiers in the Far East, but, unlike the men overseas, they had not yet been told what the objective was, nor what they could do to help. In Korea at least the problem was clearly understood; get back to the 38th Parallel. At home it hadn't been that simply stated.

A NEW STRATEGY?

At home the problem began with the question of military strategy. On the surface it appeared as though we were in the midst of a revolutionary change of plans.

Until last June 25th, the United States operated under a foreign policy that had been firm and fast for at least 4 years. The idea was to contain Russian imperialism in perimeter states (such as Korea) with words and E.C.A. dollars, *not* with force. In most part this was the job of the State Department. The military establishment we built was designed to fight Russia proper—*not* to fight the little periphery wars.

On June 25th we reversed ourselves. We undertook a program of containment by force rather than containment by words. We did it with a military establishment badly suited to the job. Indeed it was a happy fluke that we had as much strength on the Korean scene as we did, for in the deployment of a military organization built for defense against Russia proper there was certainly no call for the strength we had in the Far East, as compared to what we had or *didn't have* in other spots around the globe. There was only one reason for our disproportional strength in that area—General MacArthur. It had been easier to give him what he wanted than to say no.

The weapon we had begun to fashion to fight Russia proper has been a clumsy tool in Korea. Clumsy and most extravagant. It would be equally so in other periphery wars.

The question then is whether or not we are to continue the new policy of containment by force. Are we now committed to a program of putting out the little fires wherever they spring up and, if so, are we redesigning our military establishments accordingly?

The military answer to these questions is a flat no. We cannot win the war with Communism, say the strategists, by fighting in Korea or Iran or Indo China. We *can* lose it that way. There will, therefore, be no basic change in our grand strategy nor in the composition of our military forces. They will be expanded, but expansion will be along lines originally planned in the event of total war. Contrary to the obvious hopes of the enemy, the war in Korea has not distracted our military officials from the main problem. This, the people had not been told.

Thus, the current expansion of the U.S.A.A.F. to 69 groups can be expected to follow closely the recommendation the Air Force made last year in support of its Congressional plea for a global striking force of 70 groups. There will be no sacrificing of bomber forces for the sake of building up fighter units that would be needed if we anticipated a continuation of the Russian inspired program of periphery wars.

Does this mean, then, that further Russian moves in countries like Korea will mean all-out war? It could. But the great hope for peace is that by serving open notice on Russia that we will not be distracted from the main problem the Politburo will think twice before ordering another march of the Korean type.

WHAT DOES SUCH A STRATEGY CALL FOR ON THE HOME FRONT?

Obviously it calls for measures far beyond those required to win the battle in Korea. It calls for further mobilization, more controls, careful spending and *speed*. Right now speed is of paramount importance, for unless we have a force in being that Russia respects as a threat to her own existence, there is nothing to deter her from a continuation of her present program of provoking the little wars beyond her own borders and, thus, no alternative for us but to run to the rescue.

Speed is what the Air Force has been after for 4 years. It is well to recall in passing that the 69 groups we are now building towards is the force the Finletter Commission once said was necessary to have in being by January of *this year*. This, said the Commission, was the force required as a minimum peace time establishment—the minimum we could count on to keep us from being defeated at the outset of a war, *not* the minimum needed to win it. And this is the force we now hope to have by the end of 1952! Speed is now the thing.

The Congress of the United States

has indicated that it is fully aware of the urgent need for great haste in expanding our air-arm. Within a few days after the outbreak of the war in Korea, steps had been taken on the Hill to appropriate a total of some 9.3 billion dollars to the Air Force for the current fiscal year. 4.3 of that total will go for aircraft procurement. A slightly smaller amount than that next year (after expansion costs are paid) would pay for the 21-group expansion, if June 1st prices prevailed. But there's the rub.

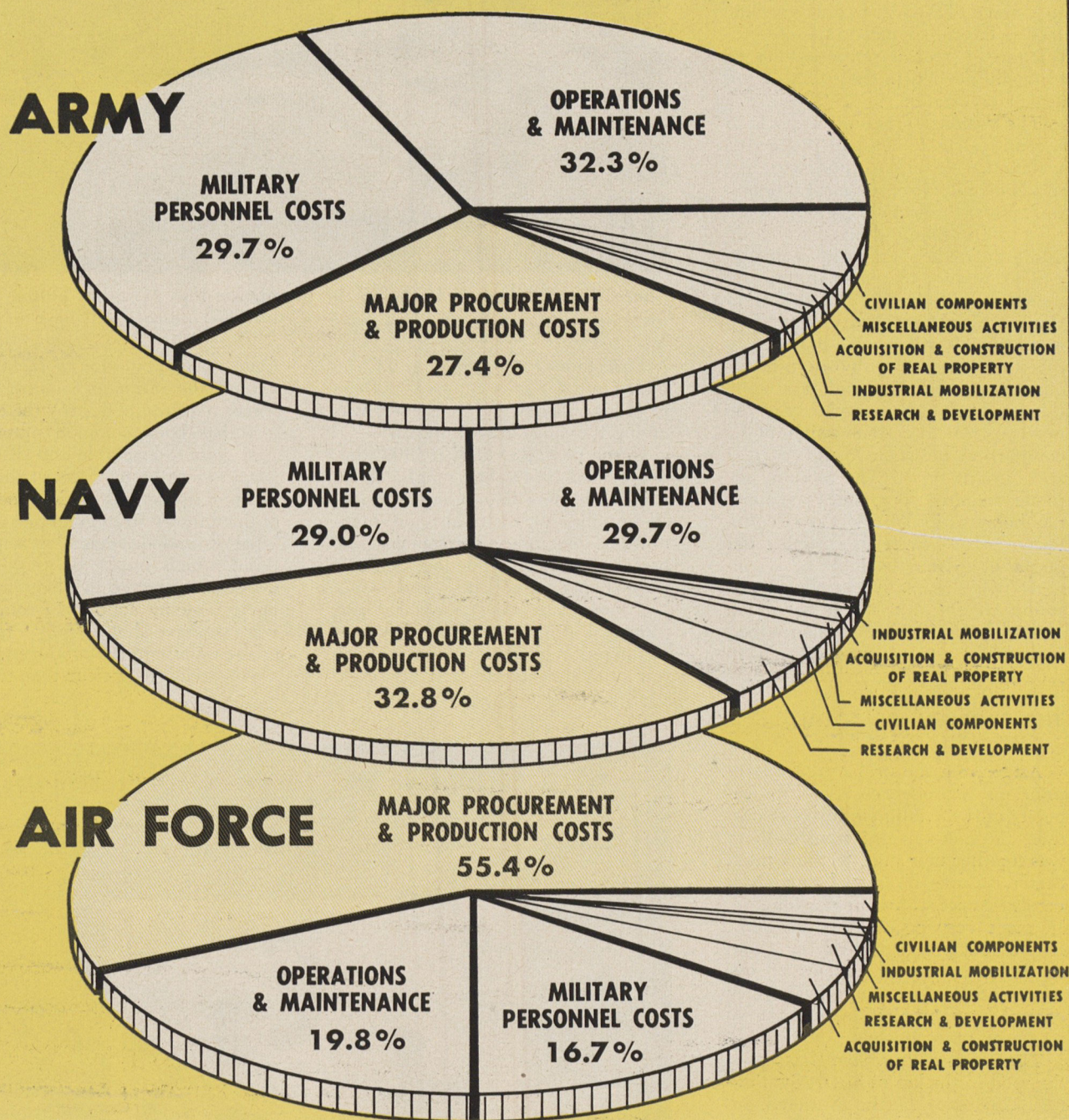
The Comptroller of the USAF, Lt. General E. W. Rawlings reports that since June 25th prices for materials and certain component aircraft parts has jumped as much as 90%. According to credible reports outside Rawling's office, one manufacturer of a small electronic item has doubled the price of his product ten times. As a result, serious delays in delivery are inevitable, to say nothing of the fact that a finished airplane may be nearly twice as expensive in the near future as it was two months ago. It is quite likely, therefore, that the Air Force will have to ask Congress for additional money to get the equipment it started after. But until effective controls are initiated, asking for more dough would be open invitation to profiteers to jump their prices again. Thus, in a way, it would be money down the drain.

THE INDUSTRY PICTURE

Flooded with letters of intent for more business than it has seen since World War II, the aircraft industry has made a rapid survey of its capacity to expand. Generally, says the Aircraft Industries Association, expansibility in the event of unlimited production go-ahead could be determined by the so-called "Rule of 3", i.e. monthly production rates could be tripled at the end of one year, the new rate tripled at the end of the second year, the second year's rate tripled at the end of the third year. But "Rule of 3" presupposes adequate plant reserves, the availability of adequate quantities of machine tools and critical materials and an effective up-to-date mobilization plan, which would provide adequate quantities of components, accessories and other elements vital to the construction of modern aircraft.

While "Rule of 3" would not normally be pushed to its limit in the building of 21 groups in two years, the lack of controls obviously makes the "rule" a bad measure. Nonetheless, in the last days of August the aircraft industry was still optimistic about its chances of meeting production schedules set forth in the Air Force letters of intent. A program to

HOW THE THREE SERVICES SPEND THEIR DOLLARS



Recent magazine and newspaper articles have reported that only one dollar of every seven appropriated to the military establishment goes to buy combat equipment. The above dollar breakdown of regular and supplemental appropriations for the three services for fiscal year 1951 shows the reports to be in extreme error. As a service-wide average, 38.5 of every dollar is going for major procurement or production. The Air Force, with the highest percentage of the three, spends 55.4 cents out of every buck in buying combat necessities. Its record is due largely to careful dollar control initiated by the Air Comptroller in 1946. Figures by Sec. Defense.

A NEW STRATEGY CONTINUED

provide a substantial number of machine tools had proceeded according to schedule with more than 161,000 general purpose machine tools now in storage. This will permit machine tool makers to concentrate on production of special purpose tools so critically needed in the event of full scale mobilization.

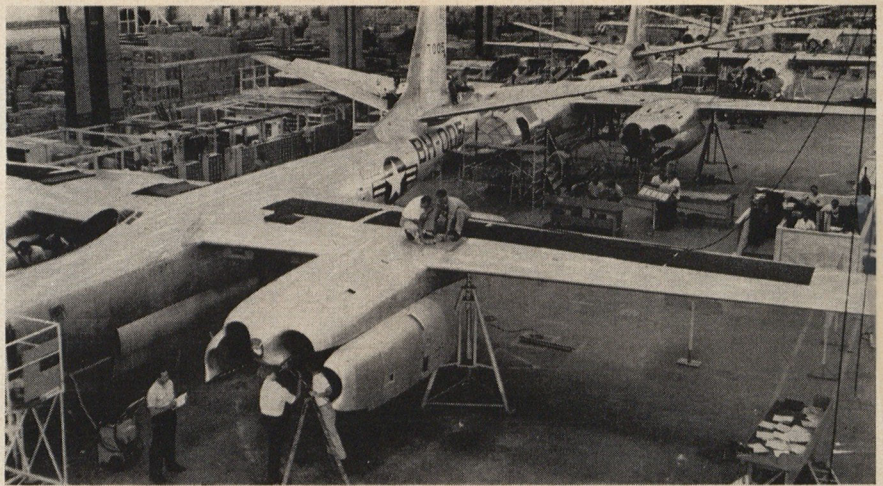
The national program of stockpiling critical materials had proceeded well and at the end of June there was in the inventory more than 1.5 billion dollars worth of materials with more than 500 million dollars worth in addition in the process of delivery.

This reserve of plants, tools, and materials will offset to a large extent the increased complexity of modern aircraft and will permit industry to devote a greater proportion of its efforts to assembling and producing these aircraft. The complexity of the new postwar aircraft is apparent by comparison between World War II and current types. The modern airplane requires four times as many manhours as its World War II counterpart. It is twice as complex per pound of airframe weight and it contains twice as many pounds of airframe weight; but it can fly much higher, much faster, and is equipped with many new improvements in radar, fire control equipment, etc.

THE PROBLEM OF TOTAL WEALTH

Aside from the problem of appropriations, increased costs and the capacity of the aviation industry to produce airplanes in great haste, there was another new and, to the United States, strange problem being given careful consideration in Washington. In some respects, it was the most frightening problem of all for it had to do with the adequacies of our total national economy to produce enough war supplies to win a total war even with controls.

The over-all problem has been dumped in the lap of Stuart Symington, Chairman of the National Securities Resources Board. The Air Force end of the job was held down by Gen. Rawlings, who, coincidentally, had been appointed Air Comptroller in 1946 by Symington—then Secretary of the Air Force. It was Rawlings job now to get every last ounce of fire power out of the money Congress gave the Air Force to fight with, and as the chart shows on page 23, Rawlings, who was only slightly tougher on the battlefield than he is with a buck, has done a magnificent job. Happily, he is at one and the same time a soldier and an astute economist.



Above, North American B-45s on the production line. With 4.5 billion dollars worth of airplanes to produce, America's aviation industry will have to hustle.

Last month the problem of the total United States capacity both in resources, money and manpower was giving Rawlings grave concern.

In the past, Rawlings pointed out, the United States has fought all its wars with more than adequate overall supplies of materials and manpower. Temporary stringencies had been experienced while logistic flows were being established and while personnel was being assembled and trained, but in World War II we encountered real shortages of only a few critical materials and no single

factor or combination of factors prevented the ultimate buildup of the forces required to destroy the enemy.

It has been common practice in past wars to assemble and distribute surpluses so as to increase the flexibility of operations. It has been part of the military strategy to pile depots, wharves and beaches high with material which might be required in event of a change in plans or unexpected enemy action. In some past wars we have shot up only a fraction of the munitions we produced.

But today it is clear that strategy

Since this picture was taken on the fighting front . . .



A cross marks the first GI grave in Korea.

based on surpluses can no longer be employed. Not only has the technology of modern warfare increased rates of munitions consumption many-fold, but aerial warfare means that in the coming war our production will be more or less seriously disrupted by enemy attack.

Sabotage is another factor which may well disrupt logistic support. Furthermore, in the present world military alignment, the United States can expect little external support in the production of munitions for herself and her entire orbit of allies.

An additional factor is that our enemy has command of resources aggregates which, in some respects, are superior to our own, even though his industrial capacity for the conversion of resources into munitions may be somewhat weaker than ours.

Such facts as these spell out a new requirement for managing resources in time of war in a fashion which never has been known, nor has been necessary in the past.

One of the principal problems will be the allocation of shortages rather than the strategic distribution of surpluses. Commanders will have to know far more precisely than in past wars, what they will have, where and when. They will have to know far more precisely what their real requirements are. They will have to know far more precisely what com-

bat consumption is really amounting to. They must be sure that waste and the accumulation of idle surpluses are held to an absolute minimum. "If," said Rawlings, "we are attacked in this country with the resources that we have remaining to us, we have to do a better job than last time, or we could well lose the war."

"Quite aside from the management of operations within the Air Force, we will be confronted with the necessity for precisely stating and adequately demonstrating our competing requirements before those who will make the over-all allocation of the Nation's resources.

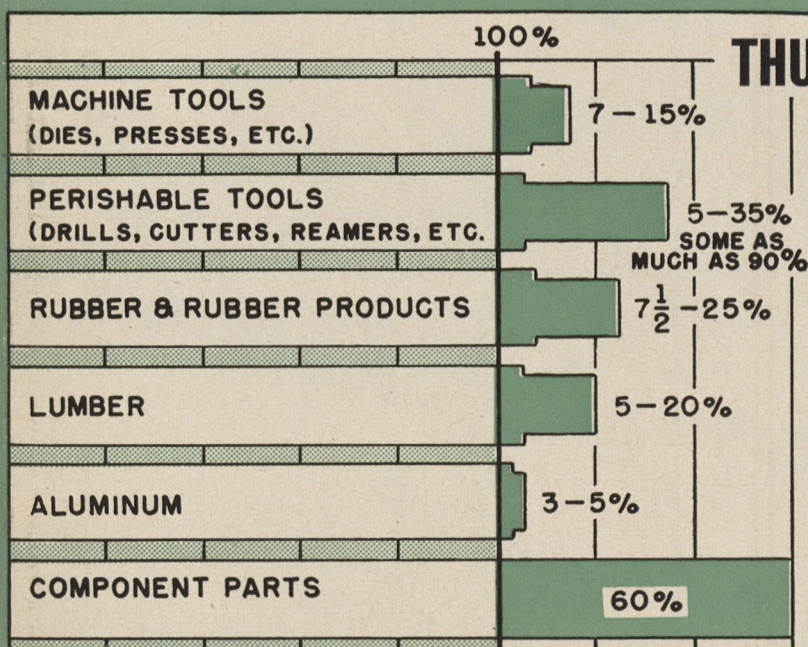
"Again, in this area, we will be deficient without adequate information and procedures. At present, we justify our dollar requirements, but I forecast that the war-time justification of our requirements for men and material, in the face of national shortages, will be much more exacting than the present task of justifying our budget. I do not infer that the procedures and information required for management in time of war are essentially different from those required in peace. Rather, it is my intent to say that our efforts toward good peacetime management should be a by-product of our methods developed for the management of operations in war.

"There has been a tendency to feel

that the emphasis given to the Air Force management has been good publicity and window-dressing to assist us in getting peacetime appropriations and in maintaining popular support. This is a false and dangerous misconception. The importance of good management now is measured in terms of our public trust as to the administrators of an expensive governmental activity. The importance of the effective management of resources during war will be measured by our ability to defend the life of our nation."

These, then, were the things the people needed to know before they could identify their problem—before they could plan where to go from here. They needed to know that our military strategy was still geared to the defeat of the one main enemy, not to the extravagant settling of a series of little wars like Korea. They needed to know that controls would have to come, and come fast so that the money we had to put into defense would buy munitions, not merely fatten the profiteers. And they needed to be told that the time was past when we could squander our wealth and resources in piling up surpluses we didn't need. When the problem was identified there was still an excellent chance that the people would solve it. But first they had to know what it was.

THIS has happened on the home front



Because of shortages (caused largely by "insurance" buying against further price increases) it now takes nearly twice as long to deliver an airplane as it did before the Korean war. Moreover, the price of the finished article may soon be doubled. IN BRIEF: WHILE PROFIT-EERS ARE GETTING RICH, THE US IS GETTING HALF AS MANY AIRPLANES AND MAY PAY TWICE AS MUCH FOR THEM AS WOULD HAVE BEEN THE CASE IF WE HAD DONE OUR BUYING BEFORE THE KOREAN CRISIS, OR IF CONTROLS HAD BEEN INITIATED IMMEDIATELY AFTER THE WAR BEGAN.

Representative Price Increases Since the Beginning of Korean War

The FLYAWAY KIT

The North Koreans can tell you all about SAC's Mobility Plan. They learned the hard way

Editor's Note: On Sunday afternoon, July 2nd, the men of the 92nd and 22nd Bomb Groups were doing what a lot of other good citizens of Spokane, Washington and Riverside, California were doing. They were fishing, golfing, mowing the lawn, or maybe just listening to the radio. Ten days later they were in Japan—the whole bunch of them, and all of their equipment—and they had already put their first combat mission into Korea under their belts. Never before had so much striking power been moved into firing position so far in so little time. This is the story of how it was done—the story of the "Flyaway Kit" and Strategic Air Command's Mobility Plan.

A B-29 BASE IN JAPAN.—The purpose of this piece is to report that the Strategic Air Command's "Mobility Plan" works even better in a shooting situation than it did in training dry-runs. When the chips went down in Korea, the plan clicked completely.

One Sunday the 92nd and 22nd bombardment groups of the 15th Air Force were in the U.S.—ten days later

their B-29s were over North Korean targets a quarter of the way around the world.

There was a lot of clock-around hustling at Spokane AFB, Wash. (home of the 92nd) and March AFB, Calif. (the 22nd's bailiwick) when these units got "the word" Sunday afternoon July 2, that they must depart for the Far East within 50 hours. Some of their personnel on leaves and at schools was scattered as far north as Canada, and as far south as Florida. Red hot telegrams and commercial aircraft soon had the missing men winging back to the fold.

Following their concise, neatly printed instructions entitled "SAC Mobility Plan," the first squadrons were off on schedule Tuesday afternoon, July 4, and the second and third squadrons followed on succeeding days as planned.

The basic aim of the plan is this: To send the combat elements of any SAC group into action anywhere in the world with enough operational spares to keep it fighting for 30 days.

There was a lot of clock-around hustling at Spokane and at March Field when the 92nd and 22nd got the word to move.



The heart of the Plan is the "Flyaway Kit," a neatly packaged ten-plane deal which gives each squadron all of the spares, including processed engines, that it would require for 30 days of combat. The crated "Kits" for each aircraft differ as to contents, but the total of ten "Kits" make the squadron's supply complete.

The Plan is equally detailed in the methods to be followed in processing personnel for overseas movement to combat zones. It covers everything from "dogtags" to dependents, and from "shots" to insurance.

Flying easy legs via Hawaii, Kwajalein and Guam, the B-29s of the 92nd and 22nd began arriving in the Far East July 8. Actual flying time was about 40 hours.

The bombers flew their first mission over Korea July 12, and they have been in action almost daily since.

The B-29s lifted about half of the personnel required for the operation. The other personnel were lifted to the Orient by the Military Air Transport Service (MATS), and by commercial air lines.

The efficiency of the ten-plane squadron Flyaway Kit was shown when the lead plane of the 92nd's first squadron developed trouble in No. 3 engine a couple of hours out of Hawaii. The pilot radioed the craft behind him carrying the No. 3 spare to follow him into Johnson Island. A rapid engine change followed, and the lead craft rejoined the squadron before it departed from Kwajalein.

The SAC people keep their affairs neat and tidy. You don't find them rushing around at the last minute trying to dispose of a pet Peruvian anteater or a 13-cylinder Bearkat racer.

About a half dozen of the men were able to rush their marriages through before the trip, but Captain G. H. "Granny" Wright (Sun Valley, Calif.) of the 92nd scored a matrimonial near-miss. As an Aircraft Commander, he was as busy as the proverbial one-armed paperhanger alerting his crew, getting them processed, checking the aircraft, getting the Flyaway Kit aboard, winding up his personal affairs, etc. He just couldn't get away from the base. When his Superfort lifted early Tuesday night, heading 7,000 miles out across the Pacific, his bride-to-be, the pastor and other friends, armed with a marriage license and a medical waiver, were standing by for the ceremony in Spokane.

One officer of the 92nd attending school at Tampa was rousted out of "the sack" by a telegram which read: "Report to base operations immediately and board aircraft waiting to transport you to March AFB." He didn't even stop to pack his bag, which was forwarded to him later by class mates.

The combat crews of these two units run about 75% WW II veterans. Considering all personnel, war experience is about 50% in the two organizations.

The Korean targets leave much to be desired, so far as these Superfort crews are concerned. There are few real strategic targets in Korea, and the Forts get a steady diet of bridges and railroad yards to hit. To get a direct hit on a narrow bridge from three miles up takes pickle-barrel bombing. The boys who are really under the gun are the lead bombardiers. Their bombing, however, has been amazingly accurate. Their operation rooms are plastered with strike photos showing their bombs squarely on the small targets.

Despite the toughness of their assignments, the 92nd alone claimed credit for knocking out 50 bridges in its first month of operation.

The movements of the 92nd and 22nd to the Orient under the SAC "Mobility Plan" can be summed up in the curt answer that pilots often give in intelligence questioning about strikes: "As briefed."



"Following their concise instructions entitled 'SAC Mobility Plan,' the first squadrons (above and below) were off Tuesday."



"Ten days later the B-29s of the Fifteenth Air Force were over North Korean targets a quarter of the way around the world." The movement of the 92nd and 22nd to the Orient could be summed up in the well known Air Force phrase, "As briefed."



Air Force Issues Call for 50,000 Reserves

Asks For Volunteers First, But is Making Limited Involuntary Recall of Both Officers and Enlisted Men to Fill Critical Needs

There are over 400,000 men and women in the Air Force Reserve, and last month it seemed to the Pentagon that each of them had a special and unique problem regarding recall to active duty. How could MOS's be changed to conform to experience gained since the last war? What was the status of former Flight Officers since the Air Force no longer carried such a grade? What protection did the government offer wage earners who couldn't support their families on GI pay? (See story on page 30.)

These questions and hundreds more flooded Reserve headquarters both in Washington and at Continental Air Command, Mitchel Field—the command responsible for recruiting personnel to fill critical shortages.

To answer such problems, the Air Force thought it best to begin by explaining *its* problem to the 400,000. Briefly the manpower situation confronting the AF was this:

- There was an immediate need for 45 to 50 thousand officers and airmen, mostly in the MOS's listed on page 29.
- Originally the Air Force had some faint hope of filling these vacancies by asking for volunteers, but by the second week of August it was plain that *some* shortages would have to be filled by involuntary recall.
- Accordingly, by mid-August recall telegrams had begun to move from the numbered Air Forces under Continental Air Command to a limited number of airmen. Within a week similar wires were on the way to certain officer personnel. There was no possible way to tell whether Reservists in any particular MOS category would be involuntarily recalled to active duty. At the moment at least, it depended on how nearly quotas were met by volunteers.

One thing the Air Force wanted made clear. There was a rumor extant that Reservists who volunteered would be *demoted*, while those who waited to be recalled would be *promoted*. The story probably began, the AF thought, during the first days of recall when Reserve officers were taken back in the highest rank they held on active duty rather than in

their discharge rank. Whatever its origin, the Air Force emphasized that the rumor was altogether false. If anything, the volunteers, by virtue of longer service, would be promoted before those who waited.

RECALL DELAYS

Based on the assumption that all Reservists have an obligation to serve in the active establishment as required, but that certain national, community and personal interests might dictate temporary delays in recall, the Air Force established the following types and categories of Reserve personnel as eligible for recall delay if called involuntarily:

- Individuals enrolled in educational institutions.
- Those engaged in research and scientific activities.
- Students of professional graduate courses in dental, veterinary or medical colleges, or performing first year of medical internship.
- Individuals engaged or employed in certain critical civilian occupations or essential activities, identified as such by the Department of Labor and Commerce.
- Hardship and dependency cases identified as such by existing Air Force regulations.
- Key "managerial" personnel whose call to active duty would cause material loss in production, services, or research necessary to the national health, safety, or interest.

In all instances where delay was sought, on the basis of critical occupation or participation in an essential activity, the AF stated it would be essential that the individual concerned produce a statement from his employer or school office testifying as to his occupational or scholastic status. The length of deferment would vary with individual cases. The minimum would be ten days. Processing of Reservists involuntarily recalled to active duty would be done by the Reservists parent unit or other offices responsible for their training. Reservist not in the Organized Reserve would report to processing stations indicated in their recall notice.

By the end of August there was

still one big question nobody seemed able to answer. Aside from the recall of *individuals* what was in store for the organized T/O&E units of both the Reserve and Air Guard? Unofficially everyone in the Pentagon seemed to think that undoubtedly certain Guard and Reserve groups would be called sooner or later. The only question was when.

Reserve Panel Makes Eleven Recommendations to SecAir

The first meeting of the Air Staff Committee on National Guard and Reserve Policy—a twenty man panel drawn from the Air National Guard and the Air Reserve to advise the Secretary of the Air Force on problems of both civilian components—was held in Washington during the first week in August. The meeting was convened to prepare and recommend to the Secretary of the Air Force, policies and regulations pertaining to the organization, distribution, training and the utilization of the USAF Reserve Forces in the current emergency.

Paramount among the recommendations made by the group at the conclusion of the meeting were proposals that the Air Force expansion to 69 groups be accomplished by calling to active duty the necessary unit forces from the Air Guard and from Reserve Aftacs, and further that individual Reservists of the Volunteer Reserve be called to active duty *after* M-Day assignees and personnel of corollary units were fully utilized to fill existing needs.

The report was forwarded to the Secretary's office, but as yet no announcement as to implementation of the recommendations has been made. The recommendations in full were:

- Inasmuch as the Air Force is to be expanded to a 69 Combat Wing Force and trained units now in existence in the AFRTC units, and the proposed Combat Wings of the ANG reorganized to conform with Air Force Structure, are now available and will be in active service in the near future; it is recommended that AFRTC and ANG Combat Wings be called to fill out the required expansion to a 69 Combat Wing Force on an equitable basis from each of our two Reserve Components.
- It is recommended that there will be no rotation of officers, airmen, or

units. All units of personnel ordered to duty should be for a period of 21 months or the period of the emergency.

● It is the opinion of the Committee that ANG units should be brought into Federal Service under PL 599 for general service and not individual members thereof, except that officers and airmen on the State Staffs may be brought into Federal Service as individuals.

● It is recommended that a firm deferment policy applicable to members of Reserve Components be published as soon as possible. Members of the Organized Air Reserve and Volunteer Air Reserve who qualify for and request deferment under this policy should be transferred into the Inactive Air Reserve. For members of the Air National Guard who qualify for and request deferment an Inactive Air National Guard status should be created and such personnel transferred thereto.

Those members of the Reserve Components eligible for but not desiring deferment should be required to sign a statement indicating their desire to be retained in their respective units.

● It is recommended that Reserve Component Members and/or Reserve Component Units be notified of the date of call to active duty as far in advance as possible, preferable at least 30 days prior to such call if the national security would not be jeopardized by such advance notice.

● The Committee recommends the following in connection with the organization and functioning of the Air Staff Policy Committees:

a. That the Air Staff Committees on National Guard and Reserve Policy be included in the Headquarters, USAF Organizational and Functional Chart in order that the duties and responsibilities of the Committees and their Permanent Secretaries may be clearly defined.

b. That adequate facilities, including office space, clerical and secretarial assistance be provided in order that the Permanent Secretaries may perform their duties efficiently and expeditiously.

c. That the Permanent Secretaries who are responsible for the administrative detail in connection with the preparation of agenda, scheduling of Committee meetings, preparation of reports, Air Staff co-ordination, and securing implementation of approved policies not be assigned additional duties.

● Recognizing the need of the USAF for an active establishment of 69 Combat Wings, supplemented by a combat potential of 27 Combat

(Continued on page 30)

USAF MANPOWER SHORTAGES

The following is a revised list of Air Force specialties critically needed by the Air Force. If your MOS is listed you may volunteer by contacting headquarters of the numbered Air Force having jurisdiction over the area in which you live. If you do *not* volunteer, and are in the Reserve, you may or may not be called involuntarily. See story on page 28.

OFFICERS

SSN	MOS	SSN	MOS
1024	Pilot Four Engine	4593	Armament Systems Officer
1054	Pilot Single Engine	7536	Technical Inspector AF
1058	All Weather Fighter Pilot	7888	Radar Observer RCM
1059	Jet Fighter Pilot	8219	Weather Officer
1061	Tactical Recon. Pilot Single Engine	9301	Intelligence Staff Officer, Combat
1051	Pilot Two Engine	1034	Navigator
0141	Electronics Officer	1035	Bombardier
0200	Communications Officer	1036	or
1014	Controller Fighter Interception	1037	Navigator Bombardier
3100	Medical Officer, Staff	0142	Radar Observer Bombardment (DS)
3170	Dental Officer	0520	Radar Observer All Weather

AIRMEN

SSN	MOS	SSN	MOS
050	Carpenter	747D	Airplane and Engine Mechanic
055	Clerk (Non-Typist)	747F	Airplane and Engine Mechanic
060	Cook	747G	Airplane and Engine Mechanic
062	Cooks Helper	747J	Airplane and Engine Mechanic
144	Painter	750	Airplane Maintenance Technician
188	Construction Worker	759	Radio Operator, CNS
275	Classification Specialist	760	Radio Operator, AACS
345	Automotive Equipment Operator	766	Radio Operator, High Speed Manual
348	Parts Clerk, Automotive	776	Radio Operator, Low Speed
359	Construction Machine Operator	778	Radio Mechanic, AACS
405	Clerk-Typist	805	Cryptographic Technician
510	Information Center Operator	835	Supply Clerk
511	Armorer	849	Radar Mechanic, Troop Carrier
514	Radar Operator (DS)	853	Radar Mechanic, Navigation
528	Airplane Hydraulic Mechanic	863	Radar Mechanic, GCA
555	Airplane Sheet Metal Worker	867	Radar Mechanic Bombardment
566	Duty NCO	901	Munitions Worker
580	Remote Control Turret Mechanic	903	Armament Repairman
581	Communications Supply Technician	911	Armament Mechanic
590	Duty Soldier	932	Special Vehicle Operator
612	Airplane Armorer-Gunner	941	Camera Technician
647	Radio Repairman, Aircraft Equipment	953	Radar Repairman, Reporting Equipment (DS)
648	Radio Repairman	955	Radar Repairman, Airborne Equipment (DS)
650	Telephone Switchboard Operator	958	Airplane and Engine Electrical Accessories Repairman
657	Medical Corpsman	960	Remote Control Turret Mechanic
667	Message Center Clerk	965	Automotive Repairman
677	Air Policeman	1383	Fire-Fighter Crash Rescuer
684	Airplane Power Plant Mechanic	2747	Aerial Engineer
684A	Airplane Power Plant Mechanic	2756	Radio Operator & Mechanic, AF
685	Airplane Electrical Mechanic		
687	Airplane Propeller Mechanic		
737	Flight Engineer		
747C	Airplane and Engine Mechanic		

MOBILIZATION NEWS

Wings, this Committee recommends the following:

In the event of mobilization of any of the Air National Guard units for the purpose of augmenting the build-up of the active Air Force to 69 Combat Wings, additional units either in the Air National Guard or the USAFR should be constituted on an inactive status.

● We recommend in order to affect compliance with Section 60, National Defense Act of 1916 as amended, that the 12 National Guard Wing Headquarters and the 27 Air National Guard Tactical Groups with supporting units as now constitute the ANG be converted immediately to 27 Combat Wings. An ANG Tactical Group with its supporting units now approximates the strength of a regular Air Force Combat Wing and may be easily converted to a Combat Wing prior to mobilization in accordance with the Regular Air Force standard tables of organization.

● In the event the reorganization of the ANG to the Air Force Combat Wing structure cannot be affected prior to mobilization, it is recommended that when 3 National Guard Tactical Squadrons and supporting units are ordered into duty, a Tactical Group and Service Group be also ordered to duty. In the event that 2 Tactical Groups or 7 Tactical squadrons are ordered to duty that a Wing Headquarters together with supporting units will be also ordered to duty.

● In order to fully meet the personnel requirements of the 48 Group Program and also the additional personnel requirements of the FEAF augmentation, it is recommended that involuntary orders to active duty of certain USAFR personnel be continued, subject to the following considerations and priorities:

a. The mobilization assignment personnel and corollary units should first be exploited fully to meet individual SSN requirement as generated by vacancies within the 48 Group Program and FEAF augmentation.

b. That personnel of the AFRTC having SSN's not required in the 69 Group Program may be withdrawn from their units and used as individual fillers. Such a policy would preserve, in so far as possible, the integrity of the AFRTC Units.

c. In the event that requirements cannot be met from a and b above, then it is recommended that volunteer reserve personnel be utilized.

Reserve Questions Flood AFA Service Dept.

Association Receives an All-Time Record Number of Letters from Airmen Asking How Soon, How Long, What Grade, What Pay

Air Force Association's Personal Service Department has announced that the month of August set an all-time record in letters received from readers of AIR FORCE magazine making personal inquiries. And as might be expected right now, the vast majority of those inquiries had to do with recall of Air Reservists to active duty. Many of the questions pertained to matters of more or less general interest, and as a service to other readers who might have similar problems, AIR FORCE herewith offers the answers as furnished by Headquarters, USAF:

Q. Where, when or how do Army Air Force liaison pilots fit into the Air Reserve picture?

A. There are no liaison pilots as such either in today's Air Force, or in the Air Reserve. The army trains its own liaison pilots at Connally Air Force Base, Waco, Texas.

Q. I have been discharged three years now and I would like to know if I would have to start as a recruit or can I get back in with my old rating of Pfc?

A. Any discharged veteran who meets physical requirements, but who failed to join the Air Reserve may now join in the grade or rank he held at the time of discharge.

Q. I was in the Air Force during the war and held the rank of Tech Sergeant. I was an instructor in Radio and Personal Equipment at Scott Field. A few months ago I joined a new anti-aircraft outfit in the ground forces of the National Guard. Now I would like to get back into the Air Force. Can I transfer into the Air Force directly, or join the Air Reserve, or just what would my status be?

A. All inter-departmental transfers were ceased on July 26, 1950. The rule applies to Regular as well as civilian component forces. The only possible way you could rejoin the Air Reserve would be to effect a discharge from the National Guard first.

Q. I am presently a member of the USAF Reserve on inactive status with a Reserve commission in the MOS of 1054—twin-engine pilot. I desire to apply for a regular commission in the Air Force since I don't

want to go back in and then come out again and have to start all over again in civilian life. Is it necessary to apply for a tour of extended active duty as a Reserve officer first in order to apply for the regular commission, and if so through what channels does one apply?

A. As a general rule, Reserve officer *must* be on active duty before he is eligible to apply for a regular commission. The rule is waived only in the case of highly skilled technicians urgently needed in the regular establishment.

Q. What provision is made for a uniform allowance for Reserve officers recalled to active duty, and are the new blue uniforms mandatory at this time?

A. No provision is made for a uniform allowance, but the new uniform does not become mandatory until July 1, 1952.

Q. If one volunteers for a tour of active duty in the present emergency and is accepted does he go back in his present Reserve rank or the rank he held at the time of separation?

A. Officers of the Air Reserve go back on duty in their Reserve rank.

Q. What is the recall status of Flight Officers?

A. There is no longer any such rank in the Air Force. Individuals who served as Flight Officers in the last war may apply for commissions under the provisions of AF Regulation 45-19.

Q. Are any field grade officers being involuntarily recalled.

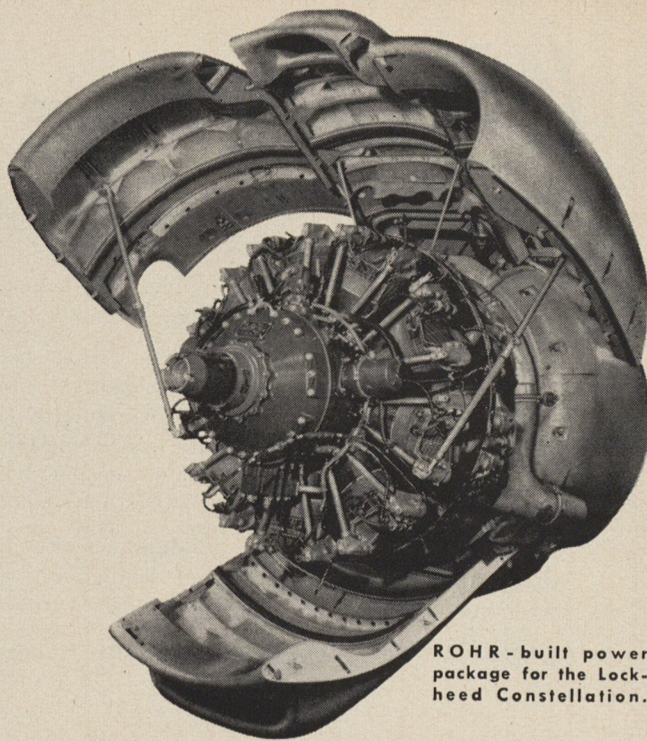
A. The Air Force is trying to fill its quotas with as few field grade officers as possible.

Q. At your convenience please advise as to what is new concerning Troop Carrier Groups of the Air Reserve being called to active duty.

A. The recall of full groups either from the Air Reserve or the Air National Guard has not yet been undertaken. It is presumed however that before long certain organized groups *will* be called to duty. Troop Carrier groups might well be among those recalled, but since such recall depends upon needs as dictated by the international situation, nothing more definite than this can be stated.

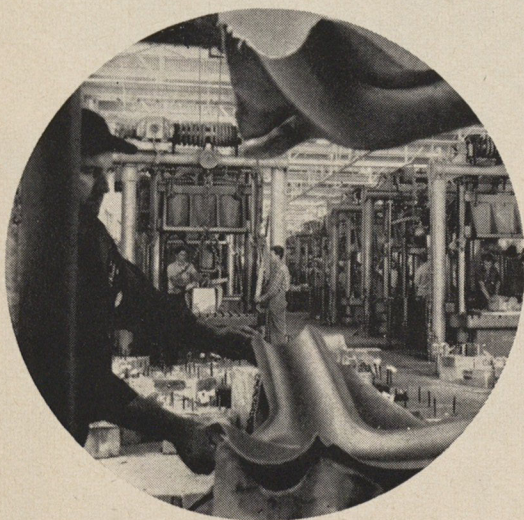
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Mrs. Henry H. Arnold, widow of our wartime commander, presented the Air Force Association's award with her personal letter of commendation to Stanford University's



Cadet Samuel D. Young, Jr. Left, AFA's Bernard Barrett accepts the medal and letter of commendation from Mrs. Arnold and, right, presents it to Cadet Samuel D. Young.

For Outstanding Achievement

For the Third Successive Year, Honor Air ROTC Cadets from Coast to Coast

Line Up to Receive the Air Force Association's Coveted Silver Medal

FOR the third successive year, more than 100 colleges and universities from coast to coast have presented the Air Force Association Air-ROTC award for outstanding achievement to their most deserving advanced students in Air-ROTC courses.

Since the award was first established in 1948, Air Force Association has distributed over 300 medals and these annual presentations have become a highlight of the ROTC program throughout the nation. Most schools have been selecting the AFA award winner from members of the

Junior Class, but some prefer to wait until a candidate's senior year so that his field training may be taken into consideration. Each winner is selected entirely at the discretion of the professors of air science and tactics in the university concerned, but AFA has made available to them a suggested rating sheet guide which gives equal weight to scholastic grades in general subjects, scholastic grades on military subjects and slightly more importance to such individual qualities as leadership, initiative, military bear-

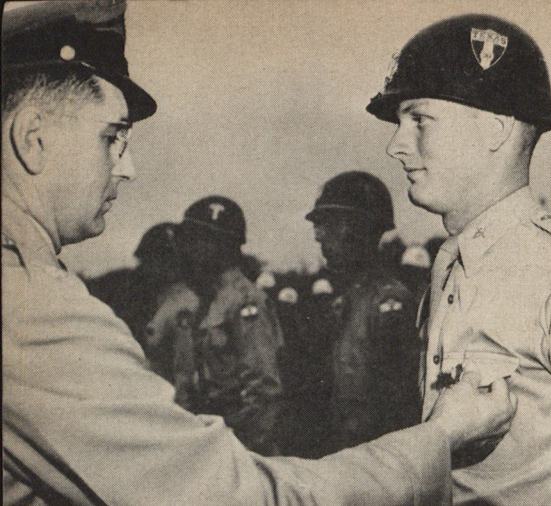
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Cadet Don A. Jacobson of Washington State College takes Air Force Association's award as outstanding military student.

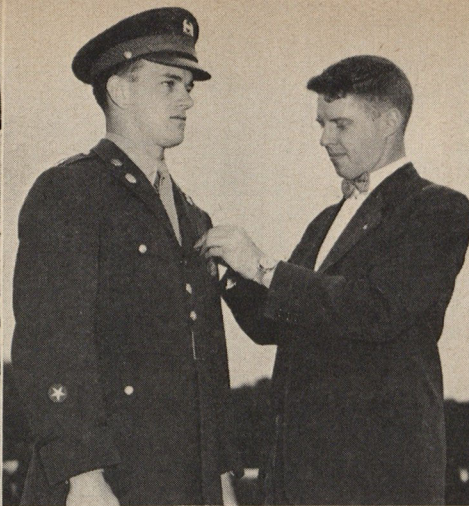
This is the Air Force Association's Air ROTC silver medal presented annually by over 100 schools.

Maj. William C. Lindley of East Texas State Teachers College awards AFA's medal to outstanding Cadet William T. Engle.





Cadet Jack Raley of the Agricultural & Mechanical College of Texas gets his medal from his P. A. S. & T., Lt. Col. John H. Kelly.



At Indiana University AFA's Robert Kadel, of Terre Haute pins medal on the blouse of Cadet Earl E. McMahon.



Winner at the University of Wyoming is Cadet William W. Gibson. Capt. Gerald S. Brownell made the award.



During ceremonies at the Virginia Military Institute, Cadet Alden A. Scott receives the AFA award from old grad John A. Camp.



At the University of Pennsylvania, Cadet Paul E. Killion, receives his medal from AFA's Hamilton Wilcox.

At a formal parade, Cadet William C. Gaddy, Louisiana Polytechnic Institute, is awarded the AFA medal by Capt. Raymond R. Flowers.

Cadet Earl M. Freeman, Jr. of the University of Akron gets his award from Capt. Joseph A. Gabriel, AFA.

ACHIEVEMENT

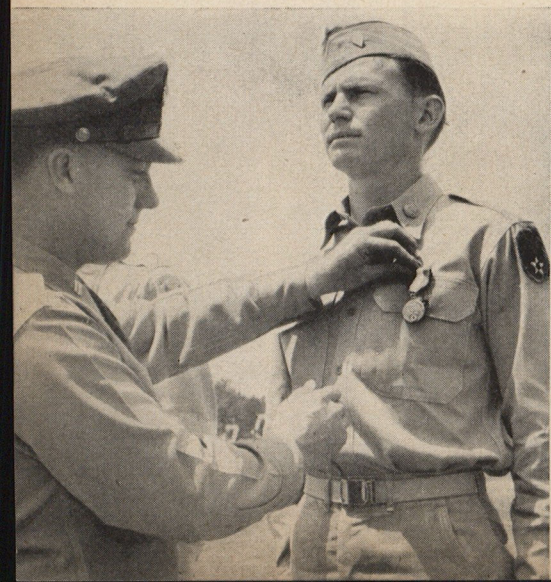
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ing, resourcefulness, neatness, etc.

Although this year there are proportionately fewer veterans among the winners than in years gone by, today's troubled world has brought into sharp focus, the vital role these young cadets will be called upon to play in today's Air Force after graduation. The ROTC has always been a major source of supply for junior Air Force officers, and it is likely that this year's graduating class, and those who graduate in the years to come will have their share of active duty assignments. Indeed the Air Force is already formulating plans for the effective utilization of this officer pool in the current emergency.

The ties between the Air Force Association and the various ROTC units throughout the nation have been further strengthened this year by an amendment to the AFA constitution which provides for a special cadet membership classification. Under the amendment, any individual enrolled as an Air Force ROTC cadet is eligible for cadet membership in the Association. Since the amendment went into effect last June, more than 125 Air Force ROTC Cadets have joined AFA. Enrollment is expected to jump considerably with the advent of the new school term next month.

AFA Director Earle B. Ribero pins a medal on the chest of Cadet Henry W. Williams, a junior at Union College.



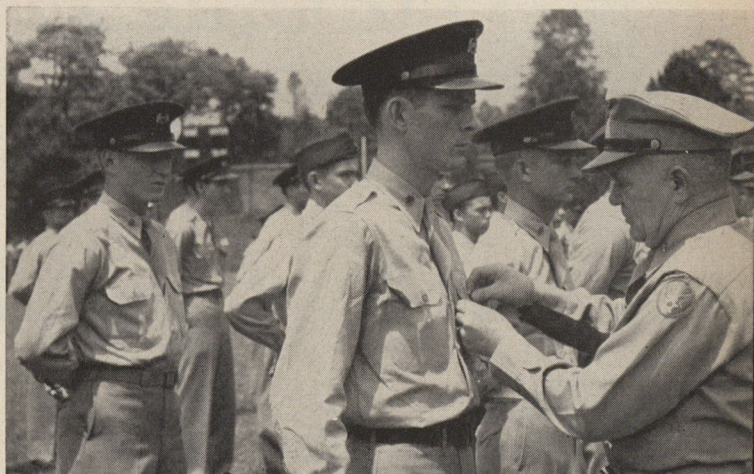
THIS YEAR'S WINNERS

Now in its third year, the annual Air Force Association ROTC awards have been presented to outstanding students by more colleges than ever before. These are the winners that have been named so far.

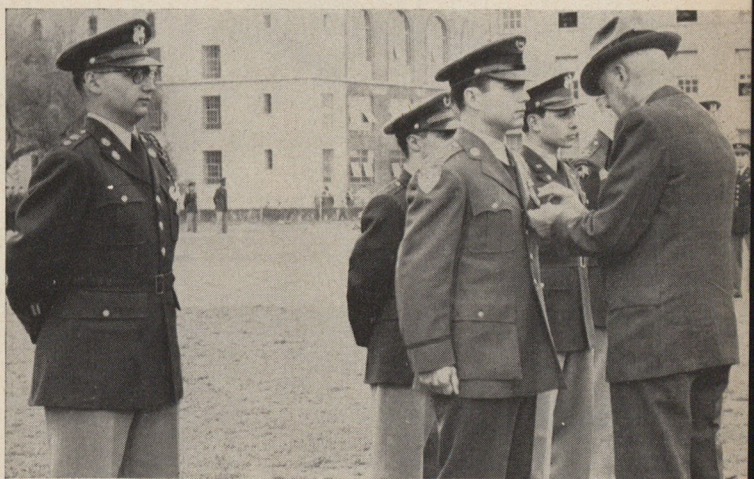
University of Akron— Earl M. Freeman, Jr.	Montana State University— Dallas W. Van Delinder
University of Alabama— William O. Armstrong	The University of Nebraska— George S. McQueen
Ball State Teachers College— John D. Beeson	University of New Hampshire— Donald G. Benoit
Baylor University— Robert M. Stapleton	The New Mexico College of Agricultural and Mechanical Arts— Eldon K. Turner
Boston University— Lemuel H. Devers	New York University— Thomas H. Johns
University of California— Uwe-Karsten Johannsen	North Carolina State College— Charles G. Deese
University of Cincinnati— Richard L. Bockstiegel	University of North Carolina— John F. Drew
The Citadel— John P. McConnell	University of Oklahoma— Charles R. Renbro
Colorado Agricultural & Mechanical College— B. W. Ryan	Pennsylvania State College— James R. McMahon
East Carolina Teachers College— Hilton G. Styron	University of Penn— Paul E. Killion
University of Denver— Frank R. Rodriguez	Purdue University— Wallace E. Vandervelde
The University of Florida— Joseph Fernandez	Rensselaer Polytechnic Institute— Douglas A. Heydon
The University of Illinois— Robert L. Simmen	San Jose State College— Philip Ward
Indiana University— Earl E. McMahon	Stanford University— Samuel D. Young, Jr.
State University of Iowa— Robert L. Grahl	The State College of Washington— Don A. Jacobson
The University of Kansas— Arthur O. Kaaz	East Texas State Teachers College— William Engle
University of Kentucky— Thomas B. Deen	The University of Texas— James E. Eagan
Louisiana Polytechnic Institute— William C. Gaddy	Texas A & M— Jack O. Raley
Louisiana State Univer- sity— Gene W. Lafitte	Texas Technical College— Glendon T. Johnson
Loyola University of Los Angeles— Morris Bedard	The Trinity College— Charles T. Dabrowski
University of Maryland— Charles T. Poole, Jr.	Union College— Henry N. Williams
best senior Arthur E. Biggs	Virginia Military Institute— Alden A. Scott
best junior	Virginia Polytechnic Institute— Allison Glover
University of Michigan— J. Allan Weygandt, Jr.	West Virginia University— Samuel C. Hill, Jr.
Michigan State College— Paul R. Pettit	
University of Mississippi— William R. Scott	
Mississippi State College— Thomas C. Ewing	
Montana State College— Russell L. Gustafson	



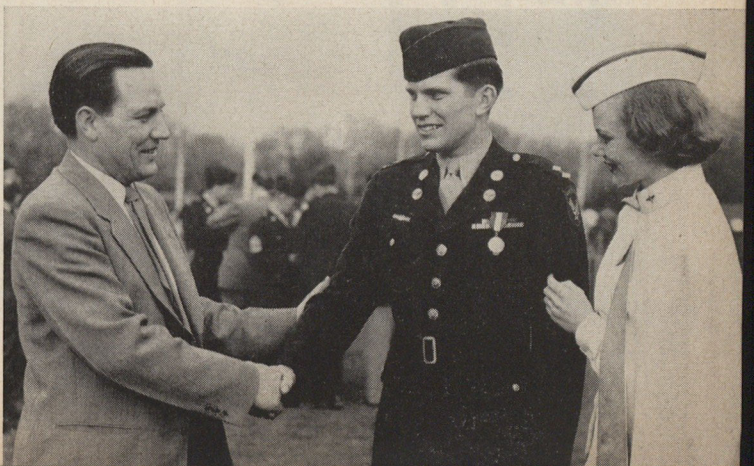
Cadet Thomas C. Ewing, right, of Mississippi State College, about to receive the AFA award as his school's outstanding Air ROTC student. Col. Ralph W. Russell makes the award.



At North Carolina State College of A&E, the AFA award went to Cadet Charles Glenn Deese. Col. A. L. Monroe, of Raleigh, N.C., represented the Air Force Association at the ceremony.




Above, Cadet Thomas H. Johns receives the AFA Medal and Ribbon from Chancellor Harry Woodburn Chase of the College of Engineering, New York University. Below, Air Force sponsor Miss Gloria Patton looks on approvingly as Cadet Paul R. Pettit of Michigan State College gets his Silver AFA medal.



150,000

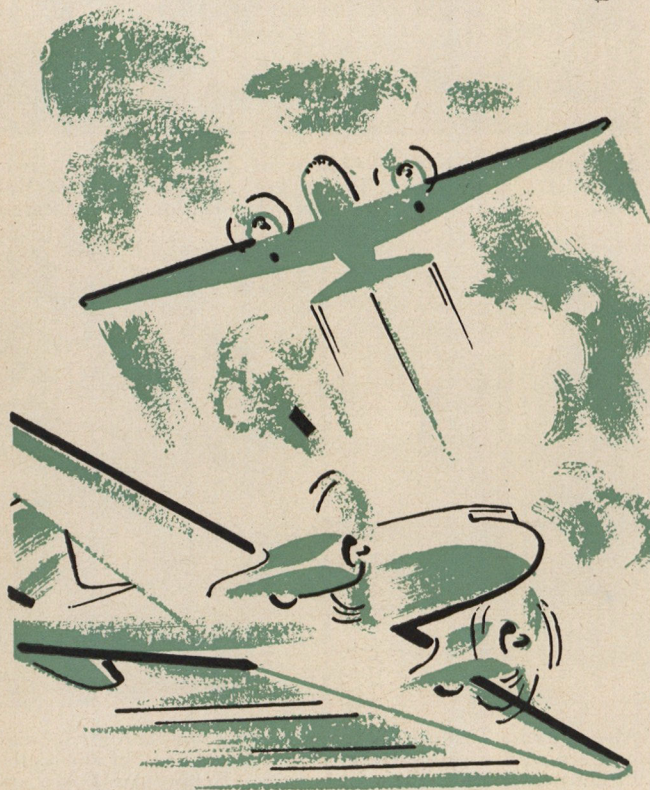
Marquette Wipers

have been produced for military and civilian planes



For more than ten years we have been producing pilot, co-pilot and bombardier windshield wipers for many types of military and civilian aircraft. Through these years we have steadfastly maintained our leadership in design, engineering and manufacturing. By our contribution to *flight safety* we have made a real contribution to the entire aviation industry.

PARTIAL LIST OF PLANES EQUIPPED WITH MARQUETTE WIPERS



Douglas DC-3, C-47	Beechcraft D-18 S
Douglas DC-4, C-54	Beechcraft C-45
Douglas C-74	North American B-25
Douglas C-124	Douglas B-26
Lockheed Constellation	Lockheed P 2 V-1
Lockheed Constitution	Martin JRM-1
Northrop Pioneer (C-123)	Consolidated PBV-5, 5-A
Boeing C-97	Grumman JRF-1, G-21
Boeing B-50	Douglas C-117
Boeing B-29	Northrop RB-49
Fairchild C-82	Northrop B-35
Fairchild C-119 B	Northrop P-61

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METAL PRODUCTS CO.

CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

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ROLLER BEARING TEXTILE SPINDLES
HYDRAULIC GOVERNORS
FUEL OIL PUMPS AND INJECTORS
PRECISION PARTS AND ASSEMBLIES

Back with the Wrights

Supersonic flight has put the test pilots back where they began

IN ALL the folklore of aviation, there are no more captivating fables than the ones built around the test pilot. He has supplied material for unnumbered movie scenarios; the comic cartoonists he has made wealthy are legion. As any high school boy knows, he is the most romantic figure in the business.

Last month there was another story about test pilots—one of the most fascinating of all. In Dayton, Ohio, residents around Wright Field were startled by loud, explosion-like blasts that seemed to emanate from clear, innocent skies. At first there was no explanation, but later the Air Force gave this account: the blasts were caused by two test pilots, (Capt. John C. Newman and Lt. Harold Collins) putting their North American F-86 jet fighters through a series of diving tests. From 43,000 feet they dived straight down. Between the pull of gravity and the push of their jets, the planes soon passed the speed of sound. Shock waves trailed in spreading "V"s from their wings. At 28,000 feet, the planes pulled out of their dives, and the shock waves (increased in force by the pull-out) continued straight down and were heard on the ground as explosions. The two test pilots said they needed no instruments to tell them when they passed the speed of sound. When that time came, their cockpits grew completely quiet. Not until they began the pullout did they return to the world of sound.

There are about 85 pilots, in addition to Newman and Collins, assigned to the Flight Test squadron at Wright Field. Their boss is Col. Franklin Paul, who looks like Paul Whiteman slimmed down enough to fit into a fighter cockpit. Leafing through his project book, Col. Paul can show you 700 different tests which are now in progress. Many are so classified he won't even whisper about them, but even more impressive is the variety. One day recently, for example Wright Field pilots:

Flew around the sky in an F-80 airplane that had ailerons much thicker and of different shape than standard types to "see how the ship handled."

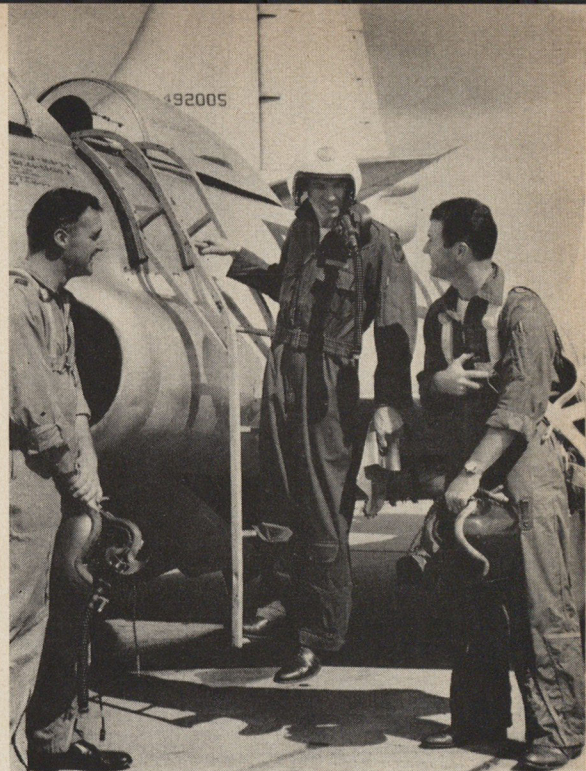
Did a series of fly-bys, snatching a big all-metal glider off the ground to measure acceleration forces.

Ran tests with an F-80 airplane which had all magnesium wings to find all-out, over-all performance characteristics.

Deliberately made a series of slam-bang, extra hard landings with a big cargo plane "because somebody had complained the structure was weak."

Took an XB-48 bomber up to extreme high altitudes and ran starting tests in flight with the afterburner installation. A risky business for any pilot to try.

During the same 24-hour period the pilots ran some 15 other tests with various types of component,



equipment: cameras, guns, compasses, Pitot tubes.

"It's all pretty routine stuff and exactly planned," explains the Flight Test chief. "The way we look at test flying today is a natural breakdown—20 per cent pilotage and 80 per cent paperwork." The pilotage is what makes the paperwork mean something, however, and Wright Field's test pilots run up an average of something like 2,000 hours of the most hazardous kind of flying every month.

What makes a top-notch test pilot? Paul has his own ideas.

"He has to have extraordinary flying ability and I don't think you can rule out the seat-of-the-pants boys. . . . They are still the best fliers. . . . You can't beat instinct. . . ."

(Continued on page 48)

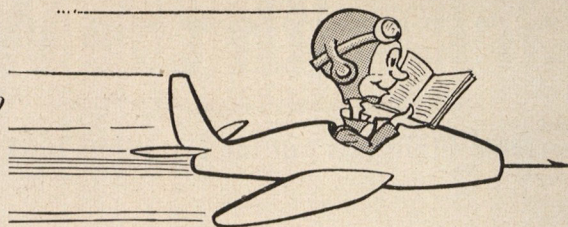
Col. Stanley Umstead, below, was one of earliest and most famous test pilots; was at controls of first B-19 flight.



Below center, students of Wright Field's school for test pilots. Right, the maze of instruments in a test plane.



The Airman's Bookshelf



I Was There

by Fleet Admiral William D. Leahy
Whittesey House, 527 pp., illus. \$5.00

Fleet Admiral William D. Leahy served as Chief of Staff to President Roosevelt and then to President Truman from July 20, 1942 until March 21, 1949. Prior to his appointment, he had been serving as the United States Ambassador to Vichy, France. This book is therefore a record of his war years which are of historical interest primarily because, in a sense, his role was that of "Assistant President."

The relationship between Roosevelt and Leahy was a strange one, for the Admiral was politically conservative and disagreed with most of the President's "New Deal" policies. But Roosevelt liked his frankness and it must be remembered that the President was basically a "Navy" man—personally fond of the sea and of ships. Although he sometimes ignored Leahy's advice, he liked to have it.

There are no startling revelations in Leahy's book. Literarily speaking, it is a jumbled affair—written partly from diary notes taken at the time and partly with the advantages of the retrospect of later years. Despite this fact, those interested in the history of the period will find much valuable data here, for Leahy was in a position to observe and report much of what went on at top level during those tremendously vital years.

It is interesting, for example, to see how the conservative sea dog saw the currently-controversial Yalta conference. The "concessions" made to the Russians seemed "reasonable" to Leahy. "No one was more surprised than I to see these conditions agreed to at Yalta labeled as some horrendous concessions made by President Roosevelt to an enemy," he wrote.

Great Mistakes of the War

by Hanson W. Baldwin
Harper & Brothers, 114 pp., \$1.50

For anyone who has tried to review the military campaigns of World War II with some dispassion, there is an almost uncontrollable urge to dismiss the author of "Great Mistakes of the War" as an uneducated jerk and let it go at that. As it happens though, Mr. Hanson Baldwin is no such animal. As military Editor of the New York Times, he is one of the most respected and influential analysts in the country—the more's a pity when he writes such tripe as this.

To Mr. Baldwin the US Navy is bread, love and religion. It is no surprise, therefore, that he is particularly critical of the campaigns in the Euro-

pean theatre where the Navy played a relatively minor role.

In Mr. Baldwin's opinion we fought too hard in Europe—played too much for keeps. It would have been better if we had fought only a little bit; sort of dabbled around the fringes. If we had been crafty we would have gotten in no deeper than was necessary to promote a battle to the death between Germany and Russia. To quote: "There is no doubt whatsoever that it would have been to the interest of Britain, the United States, and the world to have allowed—and indeed, to have encouraged—the world's two great dictatorships to fight each other to a frazzle. Such a struggle, with its resultant weakening of both Communism and Nazism, could not but have aided in the establishment of a more stable peace; it would have placed the democracies in supreme power in the world, instead of elevating one totalitarianism at the expense of another and of the democracies . . . Instead of aiding Russia with supplies and munitions—but not too much, instead of bombing and blockading Germany—but not too much, Britain, joined after Pearl Harbor by the United States, went all out for 'unconditional surrender'." This is an *actual* quote. The shame is that Mr. Baldwin knows as well as anyone how close the German march came to Moscow. And he knows too by what slender margin of time catastrophe was averted in checking the V-weapon attack on England. If he has any illusion that anything *less* than full-scale effort would have resulted in anything but defeat for the Allies, and that includes the US, then he should give back his Annapolis diploma.

He also criticizes our failure to move further east in Central and Eastern Europe when we had the opportunity, rather than give the territory, as we did, to the Russians by default. Roosevelt, in Baldwin's estimation was childishly altruistic in hoping for a "brave new world" that contemplated the peaceful co-existence of the US and Russia. And if it is wrong to work for the peaceful solution of *one* problem—especially when you're in the middle of settling *another* with the blood of your land—then Baldwin is right; we should have moved on to the strategic positions that are now in Russian hands. But even if we had (and granting their military value) who is to say that moving the east-west frontier further east would have given us anything but more ground—would have made *war itself* any more or less likely than it is today?

So far as the Pacific is concerned, Baldwin rather resents the Army and Air Force sticking their noses in the

Navy show at all. To quote: "At the time of Yalta, Japan was already beaten—not by the atomic bomb, which had not yet been perfected, not by conventional bombing, then just starting, but by attrition and blockade." And again, "After the seizure of Okinawa—probably even before that—the blockade alone could have defeated Japan; was, indeed, defeating her."

"By using the bomb," he moralizes, "we have become identified, rightfully or wrongly, as inheritors of the mantle of Genghis Khan and all those of past history who have justified the use of utter ruthlessness in war"—which news will probably disturb the hell out of the thousands of GI's who were poised on Okinawa awaiting the signal that would send them into the murderous invasion of Japan proper—an invasion that was made unnecessary by the single flights of the *Enola Gay* and the *Great Artiste*. But even this point, Baldwin will not concede. The A-bomb, in his opinion, may have shortened the war by only a few *days*—a few weeks at most. And this in spite of the fact that Japanese documents uncovered since the war and reported by such men as former Army Secretary Patterson, prove conclusively that the Nips had no intention of giving up *until* they were hit by the A-bomb. It is unbelievable that Baldwin is not familiar with the existence of these documents.

All in all, if your blood temperature isn't high enough these Summer days, Great Mistakes of the War will run it up in a hurry. The book might better have been titled, "Great Mistakes of Hanson Baldwin."

Chicago Confidential

by Jack Lait & Lee Mortimer
Crown, \$3.00

There isn't a big city in the world that doesn't have plenty of dirty linen to hide. Every now and then, enterprising reporters dig some of it out and display it to the public in the form of a fast-selling book. Lait and Mortimer opened up on New York in their expose of some years ago called "New York Confidential." The book was a financial success and prompted the authors to do a job on Chicago.

The material is there and most of it is in the book. Chicago is a rough town, a wide-open town. With gambling, gangsters and girls of every variety and profession, there are all kinds of trouble a visitor can get into in the Windy City. Chicago Confidential delves thoroughly into all aspects of the city's night life. There is good advice on how to keep out of trouble, or, if you ins't, how to get into it.



Sunset on June 30th, 500 miles above a point 400 miles WNW of San Francisco

CRASHING THE UNKNOWN!

Solving the "unsolvable" problems of guided missile development is the task of the most brilliant scientific minds in America today. These experts apply knowledge of practically every branch of science. AiResearch engineers and craftsmen are proud to assist them.

Outstanding contribution of AiResearch in this field is the design and manufacture of auxiliary power "packages." Utilizing hot gases, these units supply a *second source* of power within the missile needed to operate such vital elements as stabilizers, air surface and guidance controls.

With research, testing and manufacturing facilities developed through ten years of

specialized work in the fields of air cycle cooling, heat transfer, pressurization, gas turbines, electronic controls and electrical actuators, AiResearch brings to the missile program knowledge and abilities which are difficult to find elsewhere.

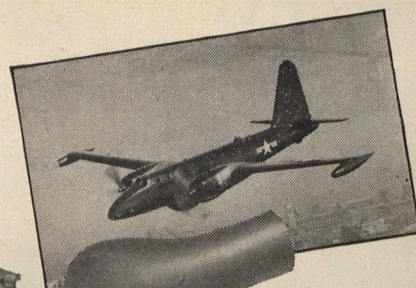
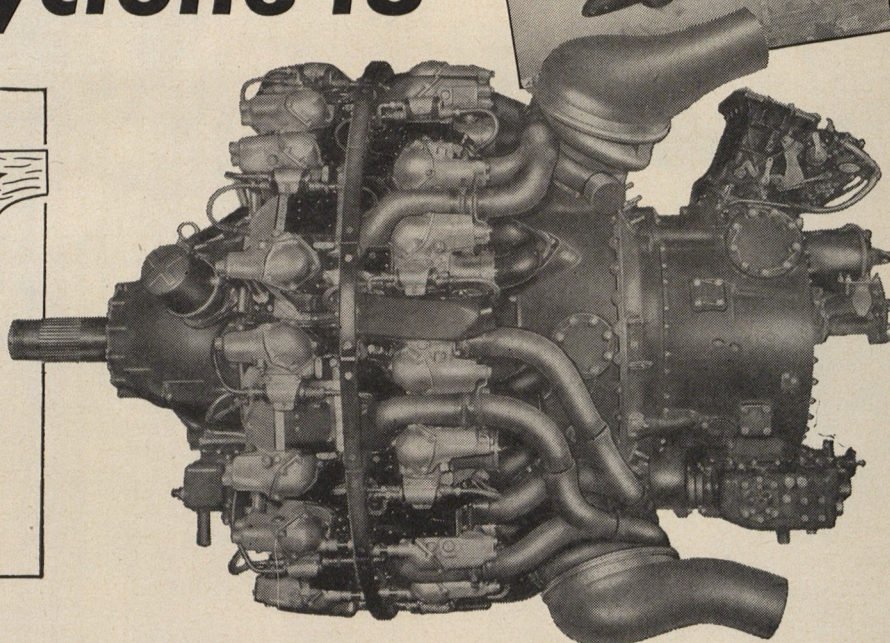
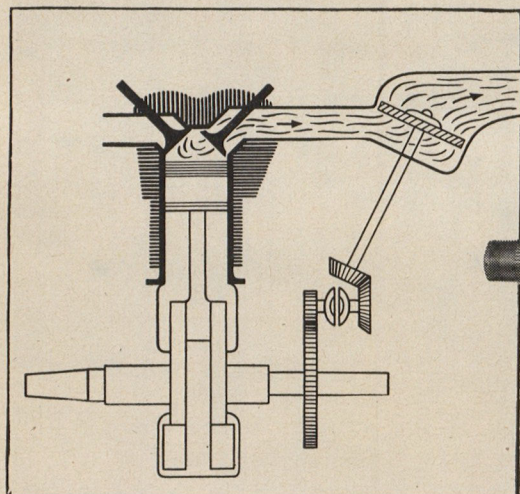
● If you are concerned with any phase of missile development, you are invited to bring your hard-to-solve problems to AiResearch. Here you will find skilled engineers, the most modern equipment obtainable and—what is most important—the kind of creative thinking that is accustomed to meeting and solving the "unsolvable."



● An inquiry on your company letterhead will get prompt attention. AiResearch Manufacturing Co., Los Angeles 45, Calif.

Now in production for Lockheed P2V-4
THE WRIGHT 3250 H.P.

Turbo-Cyclone 18



THE FIRST PRODUCTION COMPOUND ENGINE

► Mount three blowdown turbines on a piston engine. Utilize the exhaust gases from the piston engine to turn the turbines. Then count the blessings... higher power... lower fuel consumption... longer range... for military and commercial operations.

Another "First" for Wright Engineering

► The Wright Turbo-Cyclone 18—rated at 3250 horse-power—is the first and only aircraft "compound" engine to pass a military model test, go into production and fly in a production airplane.

A Tribute from the Navy

► The Turbo-Cyclone 18 now powers the U. S Navy's long-range patrol bomber—the Lockheed P2V-4—and the Martin P5M-1. It brings to these aircraft the proved reliability and operating economy of the Wright Cyclone 18 PLUS the lower weight and compactness of the gas turbine.

Endurance—Range—Striking Power

► The selection of the "compound" engine for naval aircraft primarily designed to spearhead anti-submarine defenses is a tribute of which

Wright Aeronautical is justly proud. For in anti-submarine warfare operations, endurance, long-range and heavy striking power are basic requirements... and the choice of the Wright Turbo-Cyclone 18 is based on its unique adaptability to these exacting requirements.

3000 hours successful test time

► Behind the Turbo-Cyclone 18 are over 3000 hours of experimental ground and flight tests... plus the millions of flight hours amassed by the basic Cyclone in military and commercial service.

BONUS
in Dollars
in Miles
in Pounds

TAKE-OFF POWER

BASIC ENGINE	
TURBO-CYCLONE 18	20%

NORMAL RATED POWER

Low Blower	BASIC ENGINE	
	TURBO-CYCLONE 18	14%

High Blower	BASIC ENGINE	
	TURBO-CYCLONE 18	28%

FUEL CONSUMPTION

High Cruise Power	BASIC ENGINE	
	TURBO-CYCLONE 18	20%

Low Cruise Power	BASIC ENGINE	
	TURBO-CYCLONE 18	15%

Percentage Improvement

WRIGHT IS PIONEERING IN ECONOMY

Apart from differences in operational requirements, the military and commercial operator share the same need for optimum economy and performance in long-range aircraft. The Turbo-Cyclone 18 is the most advanced aircraft power plant yet developed to fulfill these requirements. It reflects Wright Aeronautical's present and foreshadows its future leadership in creating new and more economical sources of power for air progress.

Wright Aeronautical Corporation • Wood-Ridge, New Jersey

CURTISS  **WRIGHT**



Chicago Group Co-Sponsors Dedication of Meigs Field

Chicago's airport of the future, stretched out parallel to the city's skyline on Northerly Isle, received a name on June 30, 1950—Merrill C. Meigs Field, in honor of the Chicago Aero Commission chairman. Sparked by his leadership, that organization made the city's air-age dream for the much-needed facility come true. One thousand planes, carrying 2,500 persons, flew to Chicago for the dedication, which was co-sponsored by the Chicago Group of the Air Force Association.

Meigs Field is closer to more people, more businesses, more offices, shops and stores, and more theaters and hotels than any other airport in the world.

During the dedication ceremony, a plaque recognizing his efforts on behalf of the new airport was presented to Mr. Meigs by Harry J. Fahringer, commander of Chicago Group, AFA, and Charles F. Stebbins, commander of the Illinois Wing, AFA. Although the Airport was closed to Air traffic on the dedication day, special permission was received by the Chicago AFAers to fly the plaque into the field. It was flown in one of the planes recently purchased by the South Shore Squadron No. 21.

After the dedication ceremony, members of the National Flying Farmers' Association and guests who flew in for the dedication were transported across the lagoon to a free full course luncheon and were guests at the Chicago Fair.

Merrill C. Meigs has been active in aviation activities for many years. He was the first paying passenger on an air mail plane from Chicago to Los Angeles and San Francisco and return in 1927.



Awards recognizing his efforts on behalf of the new airport are presented to Merrill C. Meigs (center) by Harry J. Fahringer (left), commander of Chicago Group, Air Force Association, and Charles F. Stebbins, commander of the AFA Illinois Wing. Over 1200 Flying Farmers flew in for the dedication ceremony.

Cleveland's Airability Tested

More than 600 rescue workers and residents of Cleveland's Mayfield Heights took part recently in "Operation Mayfield," a simulated explosion staged to test the Red Cross' ability to get to a devastated area and look after the injured and the homeless.

Members of Lee Birch's Cuyahoga Founders Squadron, AFA, served in the capacity of observers in connection with

the Air Force Association's Airability Program.

Within eighteen minutes after Mayor Harry Jones' alarm for help, the first Red Cross disaster truck rolled into the vacant lot behind the Town Hall on Mayfield Road. Coming in steadily thereafter, the Red Cross disaster workers quickly organized, setting up headquarters in the Town Hall, a first aid station in the nearby Eagles Hall, a shelter for those made "homeless" and a canteen at the Mayfield School.

PAUL T. JOHNS

Paul T. Johns, National Commander of the Arnold Society of Air Force Cadets, was drowned recently while swimming at Buckroe Beach, Virginia. Mr. Johns was instrumental in expanding the society from 13 to 46 chapters during his term of office. He was also a student representative at meetings which culminated in the amalgamation of the Arnold Society of Air Cadets with other AF ROTC honorary societies and with affiliation with the Air Force Association. Mr. Johns was attending Air ROTC summer camp in Virginia at the time of his death.



Red Cross and volunteer workers administer "first aid" to victims of the simulated explosion staged recently to test Cleveland's ability to handle such a disaster. Members of the Cuyahoga Founders Squadron, AFA, served as observers as part of AFA's program to survey the country's air potential.



AVITRUC YC-122B

DEPENDABLE



AVITRUC—designed to fulfill a vital role in national security—to deliver necessary assault personnel and equipment into forward combat areas speedily, efficiently, safely; to provide dependable operation in any transport mission.

• **AVITRUC**—designed for the job •



AIRCRAFT CO., Inc.
WEST TRENTON, NEW JERSEY



AFA STATE ROUNDUP



Bermuda bound, AFA's Col. J. V. Dalling, right, Mayor Bernard Samuel of Philadelphia and Stanley Hope of Esso, left, discuss flight plans. Purpose of the trip was to bring foreign air service directly to Philadelphia.

CALIFORNIA

Los Angeles: A joint meeting of Air Force Association Squadrons in the Los Angeles area was held on July 12 in the Los Angeles Officers' Club. General Ira Eaker, USAF retired, was guest speaker.

GEORGIA

Atlanta: Maj. Gen. Ralph F. Stearley, Commanding General of the Fourteenth Air Force, spoke recently at a charter dinner of the newly formed Atlanta Squadron of AFA at the Officers' Club, Dobbins Air Force Base, Marietta.

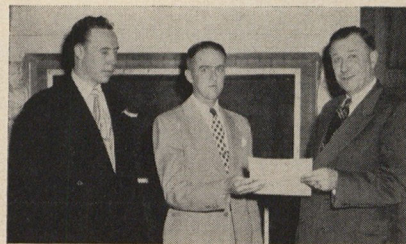
Joseph A. Wyant is commander of the Squadron. Marion S. Lagerquist, 273 Buckhead Avenue, N. E., is treasurer.

MARYLAND

Baltimore: Charles Purcell, c/o WCAO, 1102 N. Charles Street, was recently elected commander of Baltimore's AFA Squadron No. 1. Samuel Hecht was named vice-commander, and Warren Bryant was selected as secretary-treasurer.

Mr. Purcell is the chief announcer and production supervisor of WCAO. He has spent 22 years in radio and has approximately 7,000 hours flying time

(Continued on page 44)



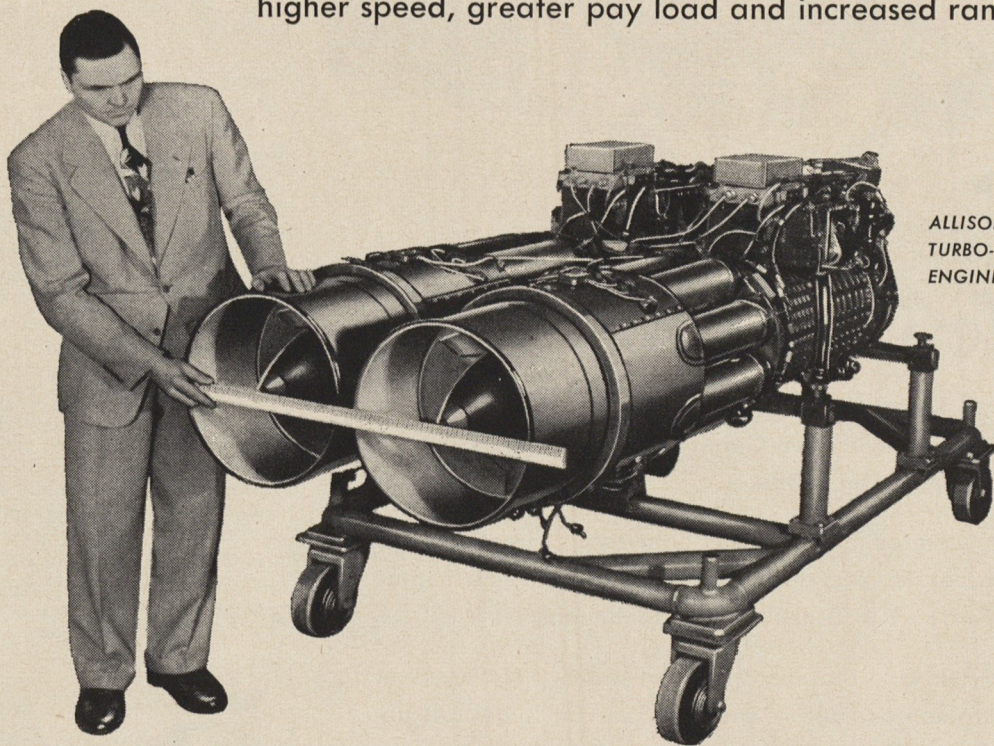
John W. Bonner, Governor of Montana, gets scroll from Hal Manson, left, and H. S. Herrin of Helena sqdn.

FIRST *in high power, low weight* *and* **SPACE SAVING!**

Under the sponsorship of the U. S. Navy Allison has developed a world's "first" in the new T40 Twin Turbo-Prop—an engine which, for its horsepower, is the lightest-weight and smallest-size propeller-type power plant ever cleared for flight.

5500 horsepower for only 2500 pounds in weight, with an exceedingly small diameter, the Allison T40 Twin Turbo-Prop engine saves valuable weight and space in the airplane.

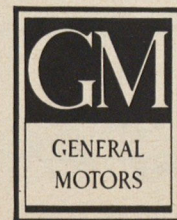
These savings mean better aircraft performance in terms of higher speed, greater pay load and increased range.



ALLISON T40
TURBO-PROP
ENGINE

Allison

DIVISION OF
INDIANAPOLIS, INDIANA



BUILDER OF THE FAMOUS J33 AND J35 TURBO-JET AIRCRAFT ENGINES



Is still as important to the success of military operations as in the days when General Nathan Bedford Forrest uttered his immortal words.

The Northrop Raider C-125 light assault transport has been engineered from the ground up by Northrop's famous design team to "Git Thar Fustest with the Mostest."

The Raider is the answer to the military requirement for an airplane capable of providing air lift into short unimproved fields in advanced areas. With three-engined reliability and a payload capacity of 8000 pounds, it can land men, vehicles, munitions and supplies "up front"—where they are needed "mostest."



NORTHROP AIRCRAFT, INC., Hawthorne, Calif.

Builders of the SCORPION F-89 all-weather interceptor



ROUNDUP

CONTINUED



The Chicopee, Mass., AFA Squadron enters a float in parade during recent New England premiere of "The Big Lift," sponsored by the AFA Unit.

as a pilot, both in the AF and as a civilian.

Mr. Hecht is president of Hecht Brothers Department Stores and was a pilot in ATC during World War II.

NEW JERSEY

Newark: The regular meeting for August of the Newark Squadron, AFA, was a big beer party held at Smith's Bar and Grill in Newark on August 10. Refreshments were free to paid up members.

The Squadron will hold a picnic on September 10 for members and friends. Tickets are to be \$2.50 per person and \$5 for couples, children free. Melvin Mardres and Jack Boehm are on the committee to arrange the details.

The Airability Program will get under way in September, at which time committees will be formed to investigate details for the coming talks by representatives of the Port Authority. Model plane building for the Boys' Club will be started in September.

Melvin Mardres, Membership Committee, reports—of the questionnaire sent out to the members, a major portion of those received were in favor of the sec-
(Continued on page 46)



At Passaic-Bergen squadron beef-steak, front row, Phyllis O'Neill, Mrs. C. Mellberg, Mrs. G. Canfield, Julie Spornow. Rear row, Bob Westerveld, Carl Mellberg, Rep. Gordon Canfield and Leo Sweeney, Jr., Vice Cmdr.

Systems Engineering

Guided missiles experience aids Martin in implementing this airplane design concept

Guided missiles were the first aircraft to attain supersonic speeds—the first to acquire fully automatic control—and the first to require the close design integration of components which The Glenn L. Martin Company calls *Systems Engineering*. Today, with piloted airplanes also passing the sonic barrier and being assigned increasingly difficult missions, it is essential that they, too, be designed as integrated air-borne systems, not merely as flying vehicles whose sole goal is speed.

With a background of demonstrated accomplishments on top level missiles projects, and continuous growth in this field . . . The Glenn L. Martin Company has carried over *Systems Engineering* from its missiles experience to its airplane designing. The Martin engineering staff has been shaped and manned to provide proper emphasis on all three of the basic types of functional elements involved in the production of a modern airplane—airframe and power plant—electronic flight and navigational controls—and military armament or passenger facilities.

Martin *Systems Engineering* recognizes that the immediate problem of aeronautical engineering is not to concentrate exclusively on airframe performance, but to integrate the necessary electronic and mechanical systems into the airframe design to produce a truly effective military weapon. And, whether the weapon is a manned airplane or a guided missile, it is imperative that the complete development be so scheduled that the end product represents a completely coordinated system. There is no advantage in having an airframe ready for flight testing while the guidance system, which may necessitate airframe changes, is still a gleam in the designer's eye.

That is Martin *Systems Engineering*. That is why radar, servo-mechanism, automatic control, automatic computer and antenna experts—as well as aerodynamicists, structural engineers and electrical, hydraulic, armament and power plant installation specialists—are all part of the well-integrated engineering team. The Glenn L. Martin Company offers its customers today.

Martin Ads Tell Air Power Story

Reaching millions of informed, alert American magazine readers, Martin advertisements like this one highlight air power's important role in our country's preparedness program. And survey after survey has demonstrated that their fiction-style appearance attracts an extremely high readership.

The general public and business circles are reached through the pages of *Time*, *Newsweek* and *Business Week*. The men and women who write and edit the news are kept abreast of latest developments through *Editor & Publisher*, *American Press* and *Publisher's Auxiliary*.

Sub-Hunting Seaplanes must be Rugged to be Right

The Navy's new Martin P5M-1 is a tough customer—built to stand the pounding a seaplane takes in anti-sub operations from rough seas in dirty weather.



WITH their range and flexibility, seaplanes are potent weapons in our anti-submarine arsenal. Their job demands unusual strength in every part—plus excellent rough water characteristics. The new Martin P5M-1 has these qualities!

First postwar twin-engine flying boat developed for the U. S. Navy, the P5M-1 is built with extra toughness in hull, wing, tail, power plant installation and wing tip float. Its long after-body hull practically eliminates the conventional "step", makes landings safer and smoother without "skipping off", reduces pitching and bouncing even in rough water. And these same qualities make the P5M-1 ideal for air-sea rescue work, plus service as a cargo or general utility carrier.

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Mrs. Nellie O'Hanlon, Washington, D. C., is shown in Miami as she returns on PAA plane from San Juan. She won trip as door prize at AFA lunch.

ROUNDUP

CONTINUED

and Thursday of each month as the meeting night. They are also in favor of a Woman's Auxiliary.

Jack Hagerstrom, 202 Chancellor Ave., is commander of the squadron.

NEW YORK

Niagara Falls: The Niagara Falls Squadron of AFA held its annual picnic recently at Mirror Lake, on Route 31 just east of Locklake, in conjunction with the Buffalo and Rochester AFA squadrons.

Entertainment for the day included volleyball, tennis, badminton, croquet, wading pools for the kiddies, and was highlighted by a softball tourney between the Buffalo and Rochester squadrons with the Niagara Falls squadron playing the winner.

The picnic, which was attended by approximately 300 persons, has as guests Mr. and Mrs. Stewart Rice of New York.

Brooklyn: Highlight of a recent meeting of the First Brooklyn Squadron, AFA, was an address by Patrolman Calvin Rupp of the Police Aviation Bureau who told the fascinating story of New York's "air cops."

The Bureau, which was started with one amphibian plane, now has two amphibians, one land plane, and three amphibian helicopters, Mr. Rupp disclosed. Personnel include seven mechanics and other auxiliary personnel. The Bureau

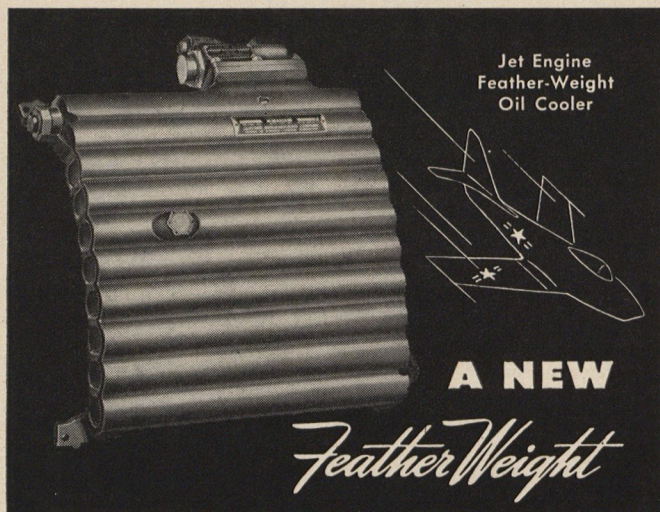
checks violations of flying regulations, investigates air crashes, and most important and interesting of all, engages in rescue activities.

Patrolman Rupp gave the answer to the \$64 question: What happens to a helicopter if the engine conks out? An automatic clutch immediately disengages the rotor shaft from the engine, so that the rotor continues revolving on its own momentum, Mr. Rupp said. The pitch of the rotor blades is variable; the pilot immediately changes to flat pitch, and heads for a safe landing spot (which in this case has to be no larger than the blades of the rotor). The rotor will continue to spin and provide enough "lift" to keep the plane from falling. While the pilot has to descend as fast as possible, he has considerable lateral control (up to about 45 degrees) and can land almost as gently as normally, Mr. Rupp disclosed.

The Brooklyn Squadron, AFA, held its annual picnic on July 23 at Indian Point. Lou Gullo was in charge of the picnic arrangements.

WEST VIRGINIA

Wheeling: AFA's recently launched "Airability Program" is getting a tryout by the Wheeling AFA Squadron. Robert Upton, commander of the group, has called for the city's officials to endorse the program. Plans for the first phase, an extensive survey of existing aviation conditions, has been presented to Wheeling's Mayor Carl G. Bachmann.



More and more aircraft of all types—both jet propelled and conventional—are depending on Clifford Feather-Weight all-aluminum oil coolers. Individually designed to meet specific requirements, these oil coolers are thoroughly pre-tested in the Clifford wind tunnel laboratory... largest and most modern in the aeronautical heat exchanger industry. **CLIFFORD MANUFACTURING COMPANY**, 108 Grove Street, Waltham 54, Massachusetts. Division of Standard-Thomson Corporation. Offices in New York, Detroit, Chicago and Los Angeles.



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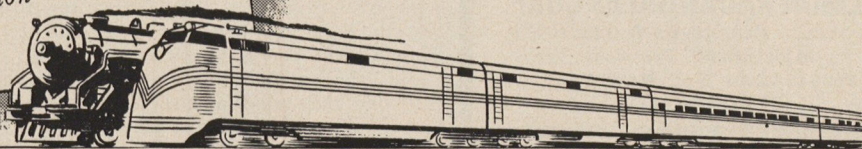
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BACK TO THE WRIGHTS

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But perhaps the most interesting aspect of today's flight testing is this: "The advent of high-performance aircraft, extreme high-speed and high-altitude operation and radically new designed airframes and powerplants," as Col. Paul explains it, "tossed an atomic bomb into flight testing."

"Look," he says, "tossing two Sears Roebuck-sized catalogues on the desk. 'This represents half of the test data reports on the B-36. The rest fills a couple more volumes. In a way, with this supersonic stuff, we're right back where the Wright Brothers started . . . We're probing the unknown.'"

Too, he says, high-speed aircraft have necessitated an entirely different kind of flying; far more difficult and precise. "The speed element translated into time is a big new factor we have to contend with," he says. "Planes today are so fast that a pilot can't run a test, make an inaccurate recording or 'not feel just right' and then go back up and do it again. Fuel limits and range limits of the jets don't give him the second chance. He has to be damn near perfect with his timing the first time . . . or else."

The maze of instrumentation that goes into every test plane before it goes

into the air also accounts for a different kind of flying. In some tests—the saw tooth climb—for instance, the calibrations are made down to the tenth of a mph. The trend toward testing by instrument is emphasized by one B-25 airplane which is out on the line. Highly experimental, it is virtually a robot. Something like 2,000 pounds of instruments of all sorts clutter up its interior. When the day comes—and it is not too far distant—that all flight test articles get into this instrumentation stage then a lot of good test pilots are going to be looking for jobs.

CONTINUED

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JOURNEY

CONTINUED

heath at Lt. Gen. LeMay's headquarters. Although he had only an hour, Butterwick was irresistibly drawn to the 11th century chapel he knew so well on the grounds of Elvedon Hall near Thetford.

A small British lorry, courtesy of the RAF, carried Butterwick on the last stage of his sentimental journey and though the visit was brief, it was most satisfactory. In the old chapel made of flint stone Butterwick saw again the stained glass window, in memory of the U. S. airmen who had been killed in action—a window for which he himself had helped raise money more than five years before. A brief walk to the huge mansion and grounds nearby completed the tour. Elvedon Hall stands closed and empty, the grounds are unkept, gone is the tense bustle of a busy division headquarters that Butterwick and thousands more had known so well a few years back. No place ever seemed more deserted.

And yet some signs of former occupancy are still there—like the flag pole in front of the house and the dim, faded white lines in what used to be a parking lot. No matter what happens to the grounds and to the huge house, the people who live in the neighboring towns and villages will never forget the men of the USAF who occupied Elvedon Hall and the surrounding air bases—the stained glass window in the church is an ever-present reminder of those years.

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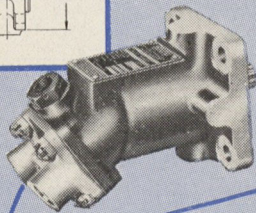
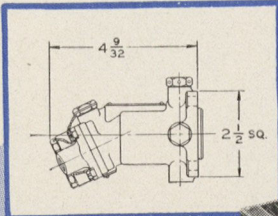
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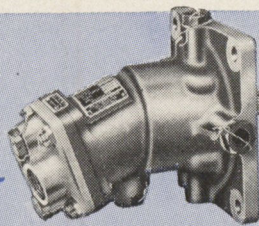
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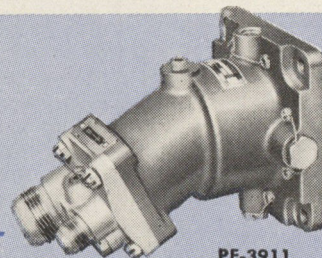
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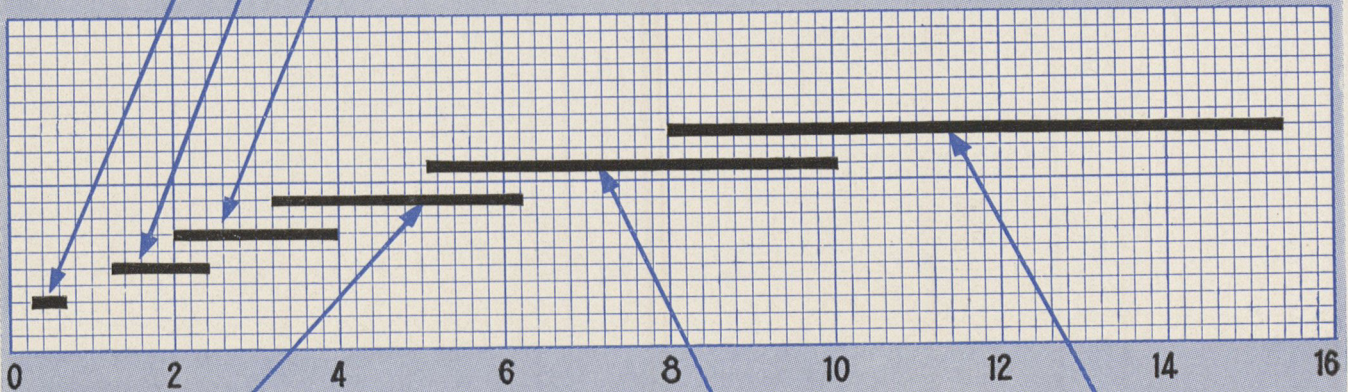
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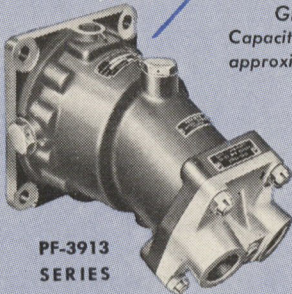
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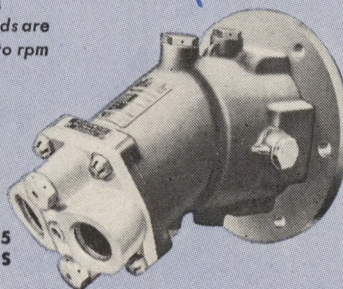
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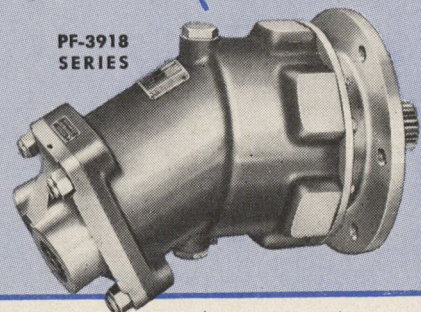
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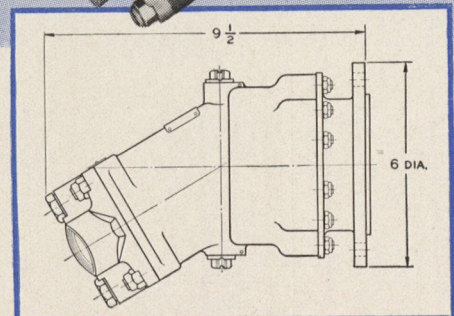
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