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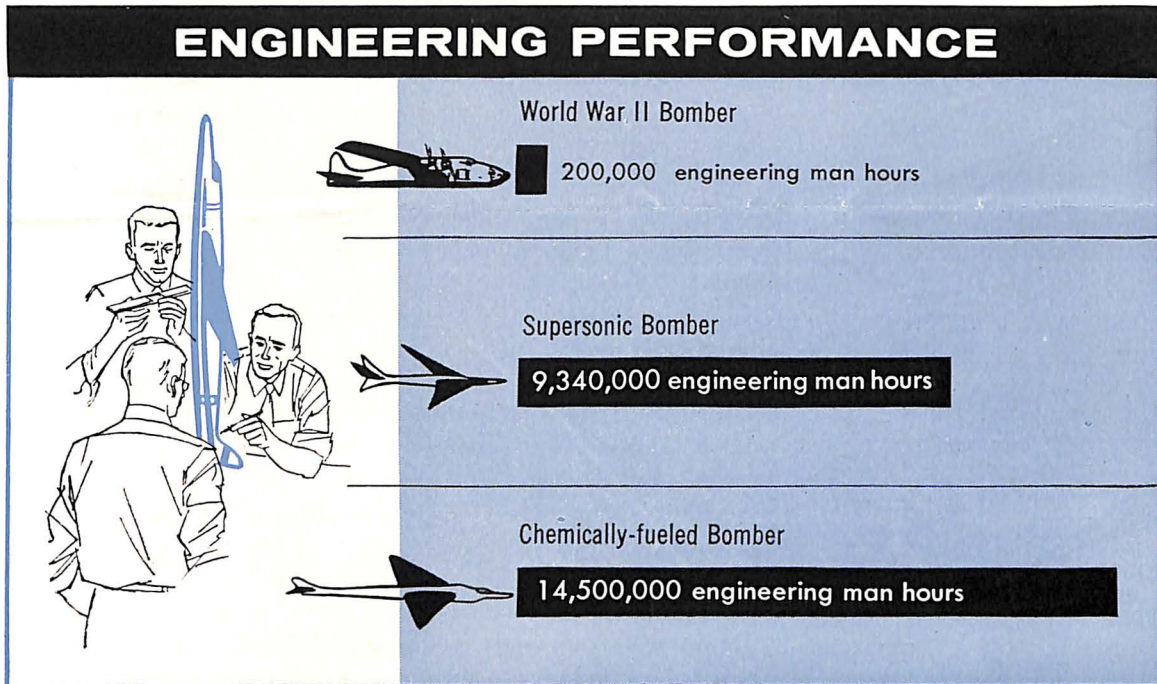
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AIA PROPOSES RENEGOTIATION AMENDMENT

ENGINEERING PERFORMANCE



The demand for scientific and engineering talents in the aircraft industry is unparalleled in the history of modern manufacturing. Performance increases—planes today fly four times faster, operate at nearly 3 times the altitudes of World War II—coupled with the replacement of numerous functions of crew members by electromechanical equipment have caused a sharp increase in requirements for scientists and engineers. A World War II bomber required 200,000 engineering man hours to bring it to the point of first flight. A supersonic bomber just starting production required 9,340,000 engineering man hours. The estimate for an advanced, chemically-fueled bomber is 14,500,000 engineering man hours, a 70-fold increase in less than 20 years.

PLANES

Revision Is Aimed at Lower Costs

By George Hannaum

Director of Industry Planning Service
Aircraft Industries Association

The aircraft and missile industry plans to offer an amendment to the Renegotiation Act of 1951 to promote efficiency and cost reduction in production of aerial weapons by permitting contractors to retain earnings contemplated by the terms of their government contracts.

The Act, as presently administered, repudiates contract clauses written by the procuring agency which are designed to reduce costs. The modest payments earned by contractors for applying imaginative technical and managerial techniques to pare production costs below carefully calculated target amounts are confiscated by the Renegotiation Board as long as four years after payment is made by the purchasing services.

Costs represent 95 per cent of each defense dollar expended. The five per cent balance is the earnings of the airframe industry, before taxes, with actual earnings of 2.4 per cent. It is this five per cent that receives the attention of the Renegotiation Board. Brushed aside is the fact that part of the five per cent profit was earned because of substantial dollar reductions made in the 95 per cent represented by costs.

The revision to the Act proposed by the aircraft and missile industry does not define excessive profits, rather it defines what is *not* excessive earnings. The amendment would simply recognize the validity of procurement contracts negotiated between buyer and seller with full knowledge of the extent of risk, the amount of government-furnished equipment, capital investment of contractor, percentage of subcontracting and other factors. An earnings framework is established under Department of Defense rules which, incidentally, has never been challenged.

The Department of Defense, since World War II, has developed a wide variety of contracts covering the unique and varied requirements of defense procurement. These contractual techniques, coupled with a broad background of negotiating (See RENEGOTIATION, Page 7)

Air Mail Marks 40th Anniversary of Service

Forty years ago this month a frail biplane took off from Washington, D. C. with the first load of air mail, and launched a revolution in communications.

During the first year of operations, a grand total of 96 tons of mail moved over the first route between Washington, Philadelphia and New York. Twenty years later, in 1938, scheduled airlines carried 7½ million ton miles of mail. Last year the airlines flew 161 million ton-miles of mail. And late last year, a single airliner carried a record 30 tons of mail from the U. S. to Europe, nearly one-third of the total for the first year of air mail service.

The 40th anniversary is being celebrated by the Air Mail Pioneers, an organization of former employees of the U. S. Air Mail Service, Post Office Department. Feature event of the anniversary was a flight in a

1918 Standard J-1, the same type of aircraft used in the first year of operation, over the same route, with a pilot, Leon D. Smith, who flew the route in 1918. The aircraft carried a load of mail, marked with a special cachet by the Post Office Department.

The first aircraft carrying mail had a speed of approximately 95 miles per hour. Later this year, when the new turbojet transports enter service, mail will be carried at 550 miles per hour.

Air mail service has progressed rapidly: The first transcontinental service started in 1920, the same year that air mail service to a foreign country (Canada) was inaugurated. Trans-Pacific air mail service was begun in 1935 and trans-Atlantic service in 1939 between New York and France.

The first helicopter air mail was

inaugurated in the Los Angeles area in 1947 over a route linking cities to the North directly with the airport.

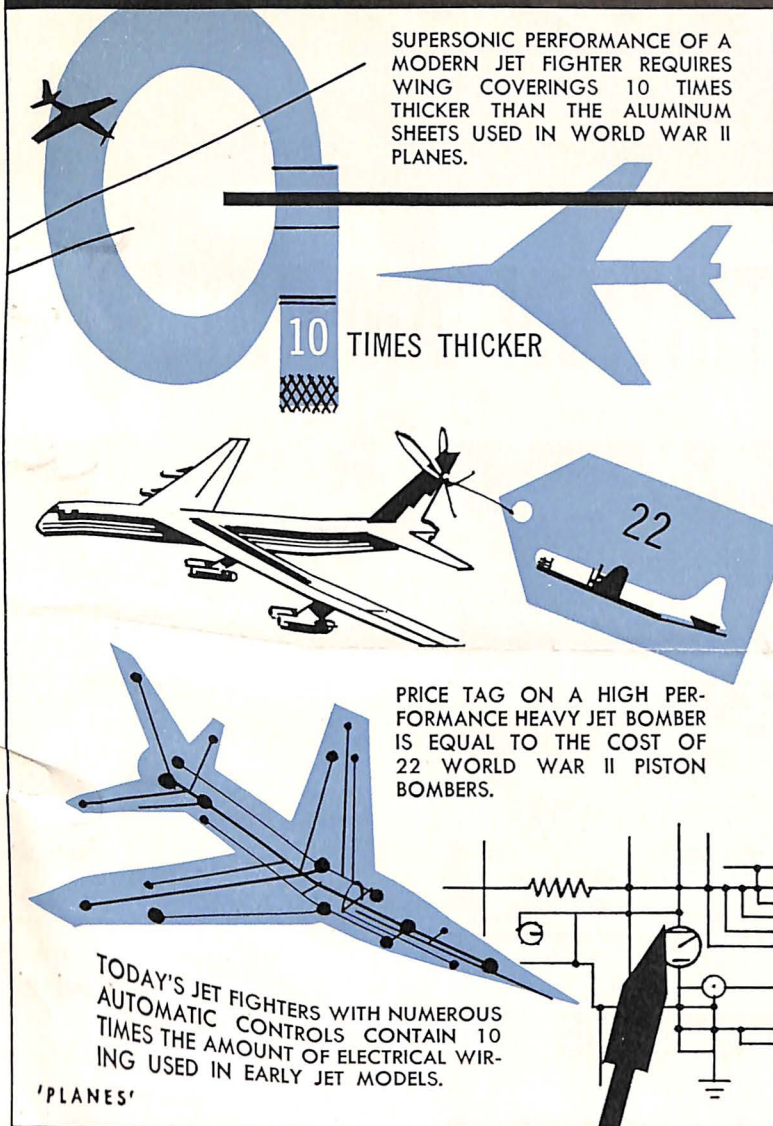
Letters written in 1860 required 8 hours to reach a destination 24 miles away via "Pony Express", while today letters move 2,400 miles within the same time span. In the civil jet age, mail will move 3,500 miles in 8 hours.

Tiny Gas Turbine

A gas turbine engine delivering 5 or 10 horsepower and weighing thirty pounds—the smallest ever developed—is finding numerous applications.

The compact unit, designed on the same principles as the big jets used in aircraft, can be used as an auxiliary power unit, portable pump, pneumatic source or ground power. It operates at temperatures from 65 degrees below zero to 165 degrees above.

Plane Views



SUPERSONIC PERFORMANCE OF A MODERN JET FIGHTER REQUIRES WING COVERINGS 10 TIMES THICKER THAN THE ALUMINUM SHEETS USED IN WORLD WAR II PLANES.

10 TIMES THICKER

PRICE TAG ON A HIGH PERFORMANCE HEAVY JET BOMBER IS EQUAL TO THE COST OF 22 WORLD WAR II PISTON BOMBERS.

TODAY'S JET FIGHTERS WITH NUMEROUS AUTOMATIC CONTROLS CONTAIN 10 TIMES THE AMOUNT OF ELECTRICAL WIRING USED IN EARLY JET MODELS.

'PLANES'

Bomber Control System 'Thinks' for Pilot

A control system for a supersonic bomber that "thinks ahead" of the pilot has been developed by a major component manufacturer.

A combination of electronic, electro-mechanical and hydraulic devices, the system continually senses and computes maximum control-surface movement permitted by the structural limitations of the supersonic aircraft.

The control system begins in the nose of the plane where sensing units pick up data on the air speed, temperature, air density and other vital information. This information is evaluated and compared in a "central air data computer."

Information is relayed to a power control linkage assembly where the pilot's control stick movements are translated into just the right degree of control surface actions by the power control unit.

The unit automatically translates the movements of the cockpit controls into just the right deflection of the plane's rudder and elevons. In the high speed range, the slightest error in control movement could cause the aircraft to maneuver violently. "The plane can no more fly without precision control than it could take off without engines," an engineer stated.

AIR QUOTE

"My Bureau (Bureau of Aeronautics, Navy Dept.) is not equipped with a sufficiently large staff of engineers, draftsmen or designers necessary to produce a new weapons system. Therefore, we must go to industry, make known to them our requirements, and then direct and monitor their efforts to bring a new weapons system to fruition. It continues to be our conviction that we must give the missile contractor prime responsibility for the whole job. We cannot tolerate the dilution of effort which would result were we to assign different parts of the job to different contractors, nor the endless time loss that would result from the periodic meetings that would be necessary to ensure design compatibility of the various components and parts made by the different companies.

"The result, then, is the award of our prime contracts to those firms which have the capacity, and can assume the responsibility, for producing a complete missile. Operations of this nature require engineers in the hundreds, tools costing in the millions, space in the hundreds of thousands of square feet, strong management, and stable financial resources."—Rear Admiral Robert E. Dixon, Chief of the Bureau of Aeronautics.

PLANES

Planes is published by the Aircraft Industries Association of America, Inc., the national trade association of the manufacturers of military, transport, and personal aircraft, helicopters, flying missiles and their accessories, instruments and components.

The purpose of *Planes* is to:

Foster a better public understanding of Air Power and the requirements essential to preservation of American leadership in the air:

Illustrate and explain the special problems of the aircraft industry and its vital role in our national security.

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'Know-How'

By Orval R. Cook

President, Aircraft Industries Association

The competitive give-and-take of American industry is founded on the principle of the "better mouse-trap." The manufacturer developing a new product or a superior product or improved production techniques is the one who makes the most sales with a fair price. He is protected in his rights to build the product developed or to use his production techniques.

In the development of such infinitely complicated hardware as modern aircraft and missiles, know-how is the keystone of advanced design and economical production. Essentially, know-how is a precise blending of every scientific and administrative advance into a reliable, operational weapon. This ability to produce a superior product is the most valuable asset of any company, exceeding any figure on its balance sheet, although it is impossible to place an exact value upon it.

Know-how is carefully guarded, like any other asset, because once a company loses it to another its competitive position is severely, perhaps permanently damaged.

However, this property is threatened by Government regulations which require industry to turn over, without additional compensation, the technical data and proprietary information involved in its products. This broad demand for know-how developed by a contractor, contained in procurement contracts, is highly detrimental because the Government can then furnish this information to a competitor.

The aircraft and missile industry recognizes the fact that an emergency could require that a particular weapon be produced by more than one source. It frequently has happened that the urgent national requirement for a specific aircraft or missile creates a situation where competing companies are manufacturing the same article. The aircraft and missile industry has an excellent record of cooperation in this practice.

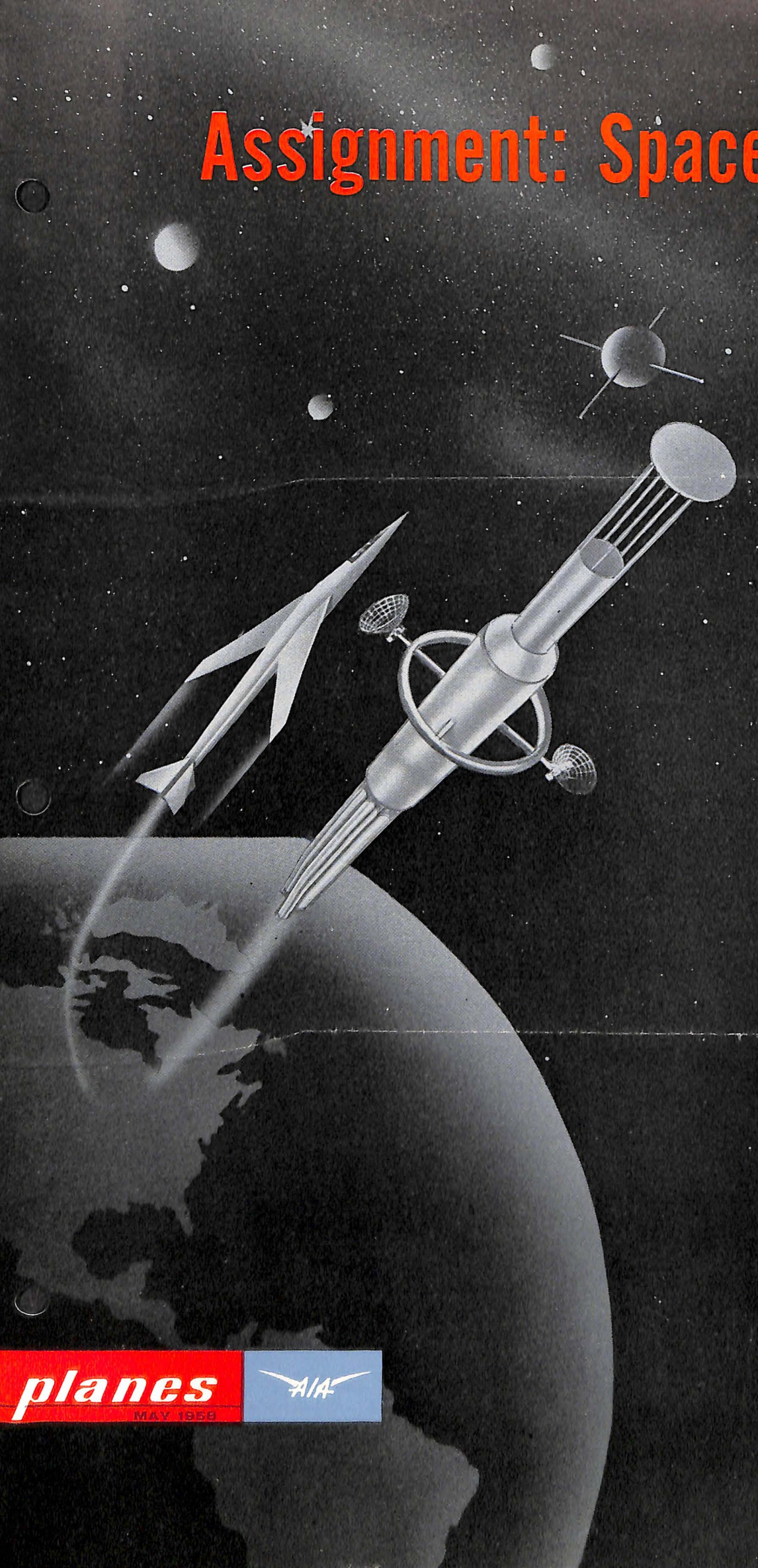
But forcing a company to forfeit its rights to manufacturing know-how in every case spikes the very fountainhead of progress through competition. The incentive to improve existing products and to develop new hardware is destroyed since the exclusive right to these developments is eliminated.

The fears of industry over misuse of know-how furnished to the government is well-founded. The present language of the Defense Department regulations is very broad, general and all-inclusive. It permits the Government to make any use it desires of the information without consulting the original developer.

The segment of industry in which this works to the greatest disadvantage is small business. In many cases, these firms are founded on an ability to manufacture a specific item with greater efficiency than any other company. Relinquishment of hard-won know-how by a small firm can only mean the eventual failure of the firm.

The aircraft and missile industry does not contend that the Government should not get what it pays for. Instead, the industry contends that it should not get what it does not pay for, and that when the Government does get certain technical data and proprietary information it should use them in such a way to encourage competition and stimulate research and development programs.

Assignment: Space



JAMES J. HAGGERTY, JR., an authority on military and civil aviation, and formerly with *Look* and *Collier's* magazines, is a member of the Information Advisory Panel to the President's Committee on Scientists and Engineers. Mr. Haggerty, the first correspondent to fly in the Tupolev 104, Russia's turbojet transport, has been active in aviation since his



service with the 15th Air Force during World War II. He edited the 1957-1958 edition of the *Aircraft Yearbook*, official publication of the Aircraft Industries Association, and is editor of "Defense Desk," a new radio program. Mr. Haggerty is a former president of the Aviation Writers Association.

By James J. Haggerty, Jr.

OCTOBER 4, 1957, is a date which bids fair to become as well remembered as Pearl Harbor. That was the date of bitter memory and striking impact when the Soviet Union tossed a 184-pound sphere beyond the Earth's atmosphere and a Russian term—*sputnik*—became part of the American lexicon.

There exists a marked parallel between the two dates. In both cases, there was the element of complete surprise and, with it, the shocking realization that our nation might not, after all, be supreme in matters military and scientific.

The reaction of the American public was identical in both cases. Indignation rapidly replaced the numbness of trauma and there rolled in from every corner of the country the traditional demand to "do something about it."

What was done about the Japanese bombing

planes

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of the Hawaiian naval base is now a matter of history and needs no recounting here. The response to the Soviet *sputniki* launchings is still on dramatic exhibition: There are three satellites orbiting the Earth at the moment of writing and none of them is Russian.

The ability of the United States to come from behind a two-down deficit in the 1957 satellite sweepstakes to a three-up lead in 1958 has certainly been a boon to American prestige, which dipped to a post-Korean nadir after the *sputniki* firings. We have not, however, won the space race or even taken a firm grip on the lead. In the void of the universe where even billions of miles are too puny a measure of distance, the number of satellites a nation has launched, their weights and the height of their apogees become very small notations on the scorecard.

SPACE will not give in easily to conquest. True, satellites have already penetrated the rind of atmosphere that surrounds our planet and it is quite likely that they will be going to or around the moon in the not-too-distant future. It is also quite likely that before long man himself will be able to venture a short distance out into space, perhaps even to the Moon. But these achievements, dramatic as they might sound, are like the feeble flutterings of a baby robin as he tries out his wings a few inches from the nest, when one considers the incomprehensible vastness of space. Our interim goal, the Moon, for instance, is only 1/16000th as distant as Pluto, and Pluto is a next door neighbor compared with the nearest star.

The real conquest of space, movement to the other planets and beyond, will be a very long term project and one that cannot be

undertaken in a haphazard fashion. As space flight emerged from the realm of fantasy last year, one of the things that first became apparent was the need for some sort of centralized control of space projects, a national agency which would clearly define goals and objectives and pursue them as rapidly as possible with an intelligent and orderly research program.

As regards its own participation, the Congress reacted quickly to the need for direction of a national space program. After eleven separate resolutions had been submitted, each House of Congress created its own space committee.

During the same period, no fewer than 18 bills were dropped into the Congressional hopper, each calling for a national space agency, but with a wide divergence of opinion as to how it should be run. Some called for the formation of a completely new organization, in keeping with the American tendency to wipe the slate clean and start fresh in matters of bureaucracy, a trend which is laudable in concept but rarely effective in accomplishment. Others called for turning over the space program to existing agencies—but there were differences as to which agency.

From this mass of proposed legislation, one bill has emerged as the dominant one. It is the bill known variously as the "President's Bill," HR. 11881, or by its Senate tag, S.3609. It calls for the establishment of a National Aeronautics and Space Agency, the nucleus of which would be the existing National Advisory Committee for Aeronautics. It also calls for the establishment of a 17-man National Aeronautics and Space Board, whose members would be representatives of various government agencies who "have the most direct interest in aeronautics, space science and space technology," and members from outside the government who are "eminent in science, engineering, technology, education or public affairs."

This bill was the result of a long investigation of the subject by the President's Science Advisory Committee, and, of course, it had the backing of the Administration. It was submitted on a bi-partisan basis by two Senators and four members of the House. Despite such

an auspicious origin, its passage has been delayed by clashes of opinion over certain provisions. Statements and counter-statements in the public press have covered the bill with a haze of confusion which needs clearing up.

A bill of such importance to the future of this nation must necessarily run into a good deal of pro and con discussion. One of the first questions which arose was should not a project of such scope as space research be entrusted to a completely new agency rather than to any one of several existing organizations that might justifiably lay claim to the

THE answer to that argument is contained clearly and forcibly in a public statement by General Orval R. Cook, President of the Aircraft Industries Association of America, a statement made, incidentally, more than two months before S.3609 was submitted:

"In my opinion, the important thing that has been wrong with our efforts to penetrate the frontiers of space has been our timing, our analysis of the urgency of the situation and our inability at the national level to move ahead and get the job done. What we need are decisions now, and the wherewithal to proceed. What we do not need are more committees, more agencies, more coordinators.

"We already have the organizations in existence capable of handling the job. They have the basic facilities. They are staffed with competent people. They have studied the scientific aspects of these problems for years. These organizations and their facilities were not created overnight. Years were required for the design and construction of the research laboratories and testing equipment. Years were required to recruit and organize their personnel into effective scientific research teams. Regardless of the sums of money made available to it, no new organization can be expected, for a long time, to even approach the existing capabilities of these established scientific groups.

"There is another factor which weighs heavily against creating a new organization or new organizations in these fields. The national shortage of highly qualified scientific manpower is well known. In the highly specialized



1959 FIRST FLIGHT PLANNED.

DECEMBER, 1955
GO-AHEAD GIVEN
TO AN AIRCRAFT COMPANY.

DECEMBER, 1954
AIR FORCE ISSUED
INVITATIONS TO
AIRCRAFT INDUSTRY
FOR DESIGN
COMPETITION.

JULY, 1954
NACA PRESENTED
PROPOSAL TO THE
AIR FORCE AND NAVY.

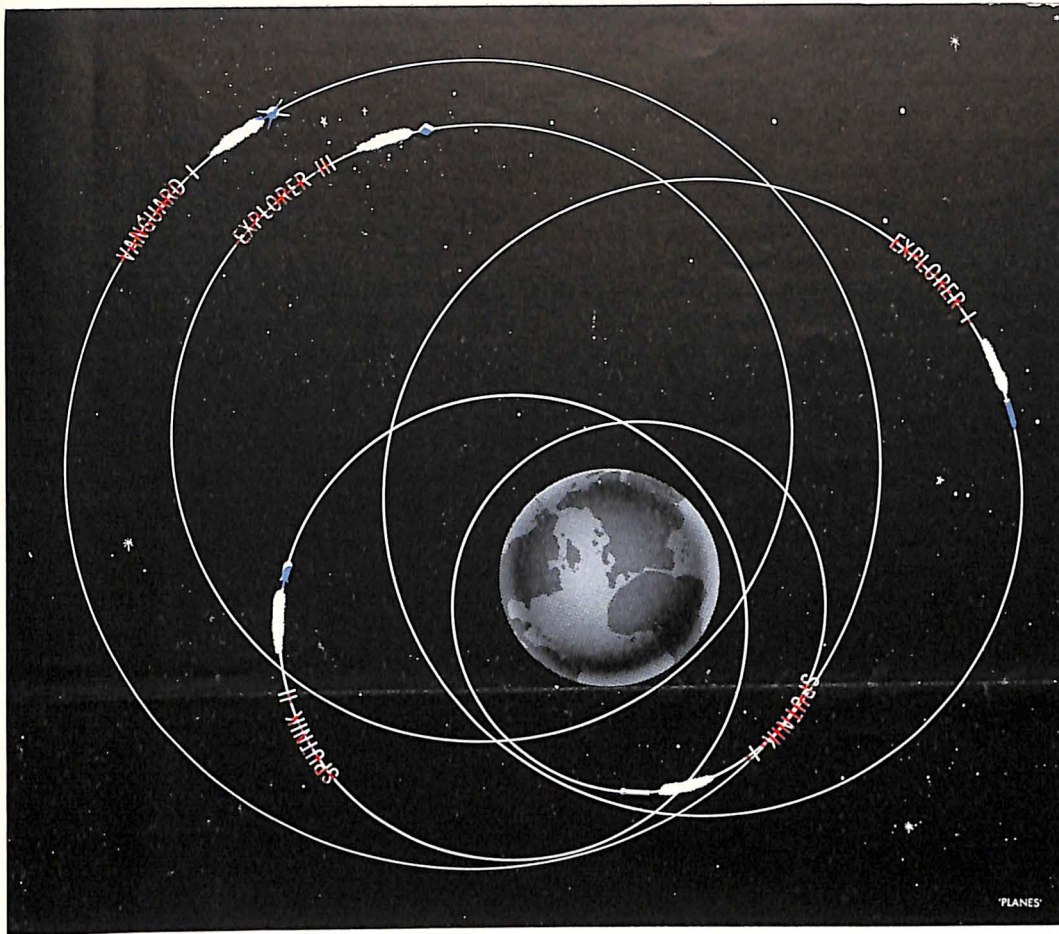
SPRING, 1952
STUDIES STARTED BY NATIONAL ADVISORY
COMMITTEE FOR AERONAUTICS.

SPACE RESEARCH AIRPLANE PROGRAM



This is a joint project by the NACA, Air Force and Navy. The rocket-powered aircraft will drop at altitude from a "mother" jet bomber plane, cut in its power plant and climb to an altitude of about 120 miles.

"PLANES"



IN MILES

	APOGEE	PERIGEE
SPUTNIK I	598	138
SPUTNIK II	1009	132
VANGUARD I	2462	406
EXPLORER I	1573	224
EXPLORER III	1741	117

fields involved with space flight, it is acute. The staffing of new agencies would naturally make inroads on existing teams and reduce their effectiveness. The loss to existing groups would not be offset by an equivalent gain in any new organization, since its administrative requirements alone would naturally place demands on its staff. . . .

“LET us not further dilute our already scarce scientific manpower pool; let us not create new organizations; let us not provide vast new facilities, unless essential. We must coldly analyze what we have and make maximum use of our existing organizations, expand them where necessary, give them the authority and direction and get on with the job.”

One of the most discussed items about S.3609 is its provision that the space agency be civilian directed. This has led to the mistaken impression in some quarters that space weapons development would be completely under civilian rather than military leadership, a situation which would naturally cause some concern, were it true.

It is vital that the military be given clear-cut and unequivocal recognition in the bill for its prime responsibilities in the space program. There are some doubts expressed by sincere Defense Department officials that the present bill doesn't do this to their satisfaction. If minor revisions are necessary to clarify the role of the military in our space efforts they should be made.

The present language of S.3609 on that

point reads as follows: “The Congress further declares that such (space) activities should be directed by a civilian agency exercising control over aeronautical and space research *except* (and the italics are in the bill itself) insofar as such activities may be peculiar to or primarily associated with weapons systems or military operations, in which case the agency may act in cooperation with, or in behalf of, the Department of Defense.”

THE italicized *except* makes quite clear the fact that there is no intent in the bill to hamstring military weapons development. It appears that space weapons will evolve logically from today's weaponry, and certainly no legal roadblocks should be thrown in the path of the military. Neither, however, should military dominance slow the civilian scientific effort, a distinct possibility had the bill given control of the agency to the military, because in a budget squeeze the civilian projects would almost certainly be banished to Limbo in favor of weapons projects.

In his testimony on S.3609, NACA Chairman Dr. James H. Doolittle had this to say about the military-civilian argument:

“One of the questions most often asked about our national space program is how can there be a clearcut distinction between the space projects which should be under military control and those which should be under NASA. The answer is that on the one side there will be projects clearly and obviously military, and on the other side, projects clearly and obviously civilian.

“In between, there will be projects with both civilian and military interest. Here, and I expect this will include many projects, there needs to be the closest sort of consultation to determine whether NASA or the Department of Defense (ARPA) should do the work, or whether it should be done cooperatively.”

THIS “gray area” could be troublesome except for NACA's splendid record of cooperation. For 43 years NACA has done a remarkable job of getting along with the military. Its military research work would take pages to relate, but some of the more important products of this cooperation would include the NACA development of a low drag wing which made the P-51 the fastest propeller-driven fighter in World War II! More recently, the development of the area rule concept for decreasing drag rise at transonic speeds brought valuable additional miles per hour to several military planes; and still more recently, NACA's work in nose cones for ballistic missiles certainly speeded the date of their entry into service.

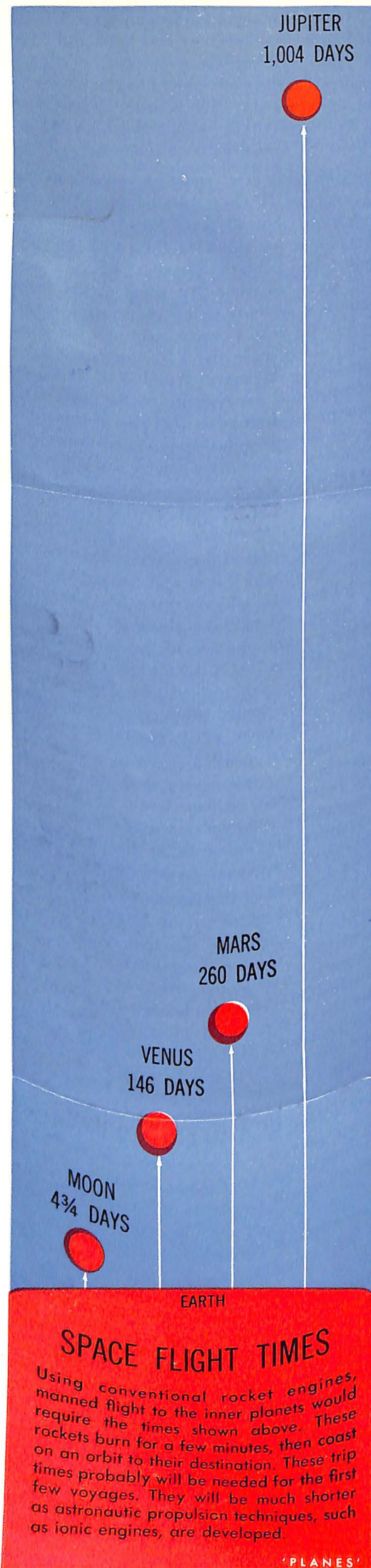
The “X” series of special research airplanes, a project in which man first flew faster than sound and later achieved three times the speed of sound and altitudes above 20 miles, was another prime example of the working harmony between NACA and the military. Finally, there is the X-15 project, the first manned venture into space, which is a cooperative NACA-Department of Defense program.

Assuming that such a degree of cooperation between the space agency and the military can be effected, civilian control of the space program has some advantages. In his message accompanying the draft of the legislation, President Eisenhower pointed them out:

“I recommend that aeronautical and space activities sponsored by the United States be conducted under the direction of a civilian agency, *except for those projects primarily associated with military requirements*. I have reached this conclusion because space exploration holds promise of adding importantly to our knowledge of the Earth, the solar system, and the universe, and because it is of the greatest importance to have the fullest cooperation of the scientific community at home and abroad in moving forward in the fields of space science and technology. Moreover, a civilian setting for the administration of space function will emphasize the concern of our nation that outer space be devoted to peaceful and scientific purposes.”

Why should the National Advisory Committee for Aeronautics be the nucleus of a Space Agency? To that question, the bill's supporters have a firm answer: There is no dividing line between aeronautics and astronautics. The latter is a logical extension of the former, and a great deal of the information available today on construction of extra-atmospheric vehicles and power plants came about as a result of investigations into methods to make airplanes go higher and faster.

And, of course, any flight to space begins and ends on Earth—if it is successful—and passes through the rind of atmosphere coming and going. Space might be termed a very high altitude where there is little or no atmosphere,



a situation which demands new types of cockpits, new methods of controlling and stabilizing the vehicle and different propulsion techniques—but the information needed for these new developments comes primarily from the storehouse of aeronautical knowledge.

PROponents of S.3609 also point out this fact: That in our enthusiasm for developing a space program we must not forget that we are far from the end of the line in aeronautical research. For a great many years to come, the airplane will be an important factor in the military balance of power, and to keep the airplane as modern as possible will require continuing research in atmospheric flight. There is a similar need for research in areas affecting commercial aircraft.

Since such needs still exist—and practically no one will argue that point—would it make any sense at all to have two separate agencies, one handling aeronautical research and another pursuing astronautical research? Who would draw the dividing line? And would not the space agency eventually have to come back to NACA to obtain a great portion of the basic knowledge on which it would base its future research?

Rather, it seems completely logical to have the agency which has already done a great deal of research in both areas simply extend its scope with whatever expansion is required, and at the same time continue its still-vital work in aeronautics.

The drafters of the bill, who are to be commended for a degree of perspicacity which is all too rare in new legislation, were quite aware of such logic. In a seven-point "declaration of policy" accompanying the bill which would create NASA, the first three points read as follows:

- 1) the expansion of human knowledge of phenomena in the atmosphere and space;
- 2) the improvement of the usefulness, performance, safety and efficiency of aircraft;
- 3) the development and operation of vehicles capable of carrying instruments, equipment and living organisms through space. . . ."

Implicit in these statements is the belief that continued aeronautical research will make further contributions to space flight, and that new work in the latter field will most probably also make contributions to advancing atmospheric flight. Also implicit is the point made earlier—that the two areas cannot logically be separated.

Even a brief resume of NACA's work in the space field fills 13 tightly printed pages. Some highlights include work in the important area of re-entry for both manned and unmanned vehicles; design studies of a hypersonic space vehicle; space controllability research; studies of chemical, nuclear and solar power sources; work on "working fluids,"—combustion products, light-weight gases, ions, photons, plasma; and research into structures and materials capable of withstanding very large thermal and aerodynamic loads and stresses generated during exit from and re-entry into the atmosphere.

Not to be forgotten in this connection is the important X-15 project, America's first manned space vehicle. The original idea for this program was developed in a NACA sub-

committee meeting in 1952; NACA conducted design studies which led to the proposal for such a vehicle in 1954; and today, while the X-15 is being readied for flight in 1959, NACA pilots are already flying a research vehicle fitted with the "space controls" the X-15 will employ.

A final example of NACA's emphasis on space flight, contained in a recently published chart, shows the following:

- 40% of the work load of Langley Aeronautical Laboratory, which has a staff of 3,216 persons, is devoted to space research;
- 29% of the work at Ames Aeronautical Laboratory, staff 1,455, is in space research;
- 36% of Lewis Flight Propulsion Laboratory's effort, staff 2,690, goes into space flight;
- at the High Speed Flight Station, Edwards AFB, Calif., staffed by 312, 42% of the work load is in space research;
- at the Pilotless Aircraft Research Station, Wallops Island, Va., which has a staff of 83, 90% of the work is in space research.

A final point in NACA's favor, say proponents of S.3609, is the agency's ability to "get along with people." Under the very able leadership of Director Dr. Hugh L. Dryden, Chairman Dr. James H. Doolittle and their predecessors, NACA over the years has displayed an extraordinary talent for diplomacy in its dealings with the other groups and agencies with whom it must work.

This is an important point. In any program as broad as the one envisioned in S.3609, there will be a great many separate groups involved—the military, industry, colleges and universities, and the scientific community in general. Because atomic power will play an important role in space conquest, the Atomic Energy Commission will be very much in the picture. And in setting the basic goals and objectives, the National Science Foundation and the National Academy of Sciences must be consulted. It can be assumed that a great number of differences will arise—and it is impossible to write into any law just how these differences will be resolved before it is known just what the differences are. What is needed is a controlling agency with tact and understanding and one which can resist the tendency to "build an empire." NACA has already demonstrated that it has such a capacity.

NE of NASA's assignments will be to build actual space vehicles. It would be possible for NASA to handle such construction itself, but Dr. Dryden, in a recent statement, made clear that there are no such plans for reasons of economy. Such work, he said, will be contracted. Most likely it will be contracted to the aircraft industry, which has proved its capability of building anything that flies from Jennies to intercontinental missiles. For 43 years, NACA and the aircraft industry have worked hand in glove and there is no reason to believe that a new type of vehicle will strain a relationship that has always been a close one—another point for the bill's supporters.

Such is S.3609 and its ramifications. Unquestionably, there are minor flaws in its language which can be ironed out, but in its essence the plan appears to be the answer to "getting on with the job."

Renegotiation Interpretation Stifles Incentive by Confiscating Earnings

(Continued from page 1)

and pricing experience, forms a solid basis for procurement in the best interests of the Government.

The contract selected from this portfolio for a specific piece of hardware is predicated, among other things, on two factors:

1. An evaluation by government negotiators of the accuracy in estimating the cost of the hardware;

2. The type of contract that will encourage to the fullest degree cost reduction efforts on the part of the supplier.

One procurement technique highly favored by the Defense Department is the incentive-type used in both fixed-price and cost-plus-fee contracts under which the contractor shares in the cost reductions he accomplishes. By the same token, he is penalized financially for exceeding cost goals.

By ordering refunds of payments earned for cost cutting accomplishments under the terms of this type of contract, the Renegotiation Board is operating at direct cross-purposes to the efforts of the Department of Defense to reduce costs. Rulings by the Renegotiation Board which confiscate earnings that are well within the earnings framework contemplated by both the procuring agency and the contractor at the time of negotiation not only eliminate the incentive for cost reduction but also dilute the responsibility for defense procurement. *When a company makes a substantial contribution to the defense effort by designing and producing superior products on schedule and at reasonable cost, and when its earnings are within the contractually established earnings framework, a determination of excessive profits is patently unjustified.*

There is plainly no need for renegotiation when the earnings are within the limits established by the Government purchasing officials.

In present practice, the Renegotiation Act works at cross-purposes to the policies of the Defense Department which urge greater investment in facilities, greater financing of work in progress. And corporate capabilities to make decisions on investment of earnings are hamstrung until the five men composing the Renegotiation Board make an arbitrary ruling on what constitutes excess profits for each company and what earnings can be retained.

The looseness of the Act is illustrated by an actual case in which the Regional Board found no excess profits while the Statutory Board in Washington ruled that \$10,000,000 of the earnings were excessive. And both offices used the same facts and the same law—and the same regulations drafted by the Board.

Statements by the Board justifying their rulings are just as vague and generalized as the language of the Act. It is impossible to determine the extent to which such prime factors as the contractor's efficiency are considered in their actions.

Although efficiency of contractor operations have been part of the law since 1951, only last month the Renegotiation Board found it necessary to issue a regulation requiring consideration of the extent to which cost reductions under incentive contracts are the result of contractor efficiency. This is simply a symptom of the vagueness of the Act; it certainly is not a remedy.

The aircraft and missile industry neither offers nor holds a brief for excessive profits. The statement on this subject by Rep. Carl Vinson has the solid support of the entire industry. During the floor discussion of the Renegotiation Act, Rep. Vinson stated:

"Renegotiation does no more than prevent or eliminate profits that are clearly excessive or unreasonable on an over-all basis—profits that would be clearly unconscionable for a contractor to retain from his dealings with the Government in circumstance which precluded proper initial pricing. The sole objective as well as the net result of a renegotiation proceeding is to make certain that the government has paid no more to a contractor, directly or indirectly, than he should in good conscience be entitled to receive in the circumstances. . ."

This is the foundation of the amendment prepared by the aircraft and missile industry for the consideration of Congress. The problem is immediate, and early hearings on the merit of the proposal are necessary if we are to avert the certain consequences of less defense and higher costs now being engendered by the interpretation of the Act.

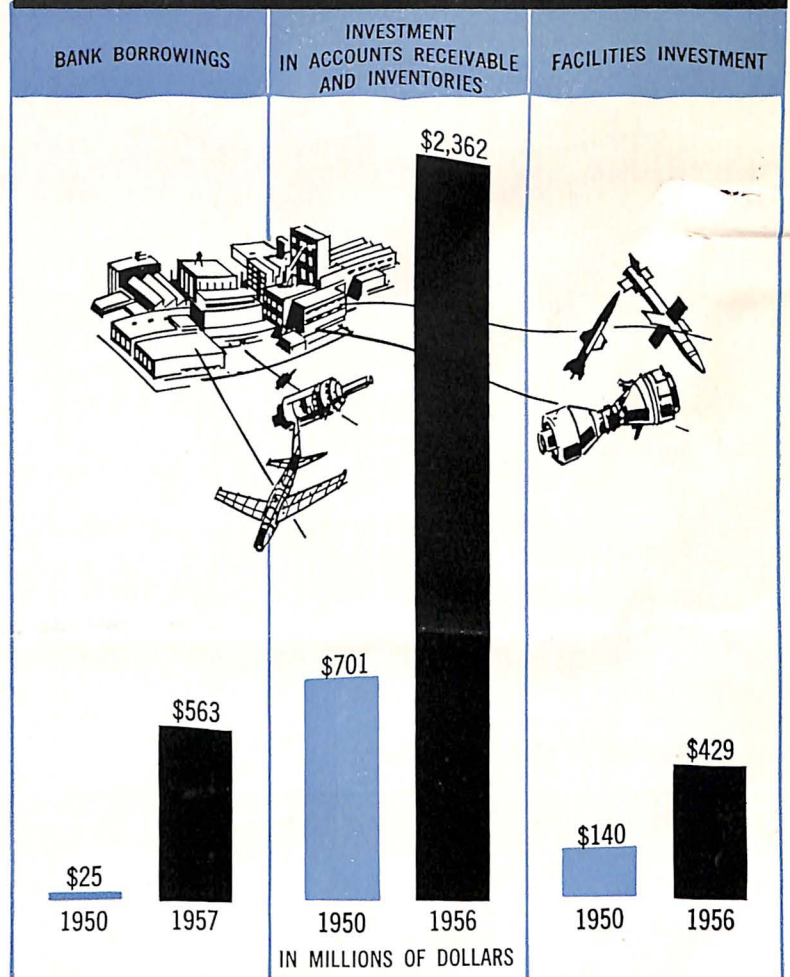
1958 Facts and Figures Is Off The Press

The 1958 edition of *Aviation Facts and Figures*, standard reference work of the aircraft industry and official publication of the Aircraft Industries Association of America, has just been published.

The 136-page volume presents statistically and textually the complete story of the nation's aircraft industry for the past year with statistical reference dating back to 1909. The paperback book contains eleven chapters on the principal segments of the industry, including Research and Development, Guided Missiles, Aircraft in Production, Manpower, Airlines and Transportation, Helicopters, Aviation Export, Military Aviation, Production and Finance.

Aviation Facts and Figures is published for the Aircraft Industries Association by American Aviation Publications, 1000 Vermont Avenue, Washington 5, D.C. Cost of the book is \$1.50.

INVESTMENT IN DEFENSE



Fifteen major airframe, missile and engine manufacturers increased their investment in facilities from \$140 million in 1950 to \$429 million in 1956, and their investment in accounts receivable and inventories during the same period increased from \$701 million to \$2,362 million. Bank borrowings by these companies went up sharply from \$25 million in 1950 to \$563 million in 1957. Aircraft and missile companies plow back a greater percentage of their earnings (about 60 per cent) than any other manufacturing industry, principally because of competitive demands in developing and producing today's air weapons.

'PLANES'

Senate Approves Washington Heliport Study as 'Important Step' in Future Planning

The U. S. Senate this month unanimously approved a resolution ordering a study on the construction of heliports in the District of Columbia which could become a model for legislation to bring the benefits of this versatile form of transportation to other cities.

The report by the Senate Committee on the District of Columbia stated:

"There was no opposition presented to the resolution during the hearing. A Civil Aeronautics Administration representative indicated that planning now would be of great advantage in the future, due to the trend of building fixed wing airports farther away from the downtown centers.

"The use of helicopters will undoubtedly become greater, and while the Washington National Airport

can and does handle the comparatively light helicopter traffic that now exists in the National Capital area, the committee is of the opinion that the future will demand large and elaborate facilities within the downtown area. This joint resolution is an important step forward in the planning for the future of the District of Columbia."

The popularity and utility of the helicopter for transportation of passengers, property and mail was pointed out by spokesmen for the Aircraft Industries Association's Helicopter Council in testimony before the committee. Passengers carried by three certificated helicopter airlines soared from 62,000 in 1956 to 152,000 in 1957, an increase of 145 per cent in a single year. There are a total of 470 helicopters engaged in commercial operations now, and the number is increasing.

20 Years of Progress... 1938-1958

AMERICA TAKES THE SKYROAD

Scheduled Airline Service



PASSENGERS CARRIED

1,306,000

49,339,000



CITIES SERVED

286

706



AIRPLANES IN SERVICE

345

1,829



SAFETY RECORD*

4.5

0.2

*Fatalities per 100 million passenger miles

Development of Transports



SPEED

230

550*



PASSENGER LOAD

23

140

*Jet transports to start service later this year

General Aviation



HOURS FLOWN

1,478,000

10,500,000



NUMBER OF PLANES

10,800

65,000

Serving Aviation



LANDINGS AND TAKEOFFS

150,000

25,150,700

AIRPORTS

2,119

6,151

MILES OF AIRWAYS

23,723

106,000

INSTRUMENT LANDING SYSTEMS

0

163

AIRCRAFT CERTIFICATES

11,159

67,500

AIRMEN CERTIFICATES

62,243

746,500

Twenty years ago Congress passed the Civil Aeronautics Act which provided a firm basis for civil aviation progress. In two decades civil aviation has emerged from a "fan club" transport status to become a multi-billion dollar industry which dominates inter-city passenger transportation. The Act in 1938 created the Civil Aeronautics Board, an independent agency that regulates the economics and safety of civil aviation operations, and the Civil Aeronautics Administration, the agency that builds and operates a vast network of airways and airports, and administers a comprehensive safety program ranging from the airworthiness of planes to the qualifications of the experts who fly and service them.

There are innumerable factors that have contributed to this growth of civil aviation. But the prime factors are the speed, convenience, comfort and economy of air travel. The U. S. aircraft manufacturing industry sets the global standard in the development and production of civil planes, ranging from the high-speed turbojet transports capable of carrying 140 passengers non-stop across the U. S. in little more than 4 hours to the light planes used in a multitude of services.

The faith of plane manufacturers in the future of air transportation, demonstrated by risking their limited capital in development of aircraft for an unproven market, has paid dividends in national security and prestige. Today 85 per cent of the transports used by the world's airlines are American-built. In general aviation, which includes all civil aviation except the airlines, the U. S. leads in both number of types produced and in exports. More than 1,000 of this class of aircraft were exported last year, a large share of them to aircraft-producing nations. The helicopter, which was in its infancy in 1938, is rapidly assuming a prominent role in civil aviation. It is particularly qualified for short haul transportation in congested city areas and for numerous industrial tasks.

The aircraft industry pledges its talents and resources to making the next twenty years of aviation even more beneficial for world peace and the public it serves.

