

ANNUAL REPORT

1954



AIRCRAFT INDUSTRIES ASSOCIATION
of AMERICA, Inc.

The following is the annual report of Admiral D. C. Ramsey, USN (Ret.), President of the Aircraft Industries Association. The report reviews operations of the fiscal year which commenced on November 1, 1953, and ended on October 31, 1954.

AIRCRAFT INDUSTRIES ASSOCIATION

610 Shoreham Building

Washington 5, D. C.

TO THE BOARD OF GOVERNORS:

During the last twelve months, the American aircraft industry has reached the approximate peak of its operations called for under the limited emergency. Not only has it maintained a level of production of some 900 aircraft per month, more than 10,500 for the year, but its products have reached an unprecedented degree of quality and combat reliability. Thus, the industry today is realizing the fruits of earlier efforts in research and development—a fact which underlines the importance of continuing and intensified programs in that vital field of aviation effort.

With its facilities and engineering and production teams in such advanced states of readiness, the industry would be able to expand quickly in event of a major emergency.

As important milestones of military aviation progress, it is gratifying to note that all combat aircraft currently in production for the Air Force are jet powered. Air Force wings are more than 80 per cent modernized, and all fighter wings are already completely equipped with jet aircraft. More than 60 per cent of Navy air forces have been modernized. Under current plans, full combat strength will be reached by June, 1957, which date will mark the beginning of the replacement phase of the program.

The last year has been marked by significant advances made in the introduction and delivery of new military aircraft of extremely high performance. One fighter capable of supersonic speeds in level and climbing flight is already being delivered to the Air Force in important quantities. Others of such capabilities are in advanced test status for both the Air Force and Navy. A new supersonic bomber has been ordered into production, while quantity production is underway on a heavy inter-continental bomber capable of speeds near the sonic barrier. To date, more than 1,000 six-jet medium bombers have been delivered to the Strategic Air Command. Also introduced during the year were two revolutionary new types of vertical-takeoff aircraft developed for the Navy.

Important progress also has been made in guided missile development and production. Not only are 26 different models in project status in the aircraft industry, but such great emphasis is being placed on this type of armament that the Department of Defense is spending as much on research and development in

this field as in the field of piloted aircraft. Some types have already been assigned to combat units in the United States and abroad.

During 1954, the American aircraft industry made significant strides in the development of turbine-powered transports. One large jet transport was flown and has been ordered into production, in one version, as a tanker-transport for the Air Force. Other jet and turbo-prop transports are in varying stages of development. These answers to aggressive British competition are being watched carefully by the world's airlines.

Employment in the aircraft industry was slightly more than 800,000 throughout the year—a total which is considered the peak under present production schedules. This does not include employment assigned to aircraft among some 50,000 to 60,000 subcontractors and suppliers.

Conscious of the fact that growing complexity, new materials to withstand the stresses and strains of high performance, and more exacting manufacturing methods have added greatly to cost, AIA members have exerted every effort to keep these costs down. These efforts have embraced all operations and have been instrumental in developing an attitude of cost consciousness on the part of company personnel of all echelons of responsibility.

NEED FOR NATIONAL AIR POWER POLICY

As the industry faces lowering production levels, the need for a national air power policy to empower long-range procurement planning becomes more pronounced. Such a policy presumably would provide for permanent maintenance of a strong and active research and development program, an expandable production base and a production "floor" to hold together vital engineering and production teams. It would lay the essential groundwork for maintaining at all times a healthy, stable aircraft industry.

Strong support for such a policy has been expressed often in the Executive Department of the Government, in Congress and by national leaders. It is to be hoped that this support may soon find expression in remedial action.

AVIATION EDUCATION PROGRAM

Additional momentum was gained during the second year of the AIA-National Aviation Education

Council program to advance study of aviation subjects in the schools of the nation. Under this program, which AIA supports, materials of instruction are prepared, distributed and sold in quantities to the schools by the NAEC. This organization is made up chiefly of leading educators who appreciate the need for interpreting the social and economic effects of aeronautics and for their inclusion in curricula.

In addition to increasing the sales of classroom materials prepared last year, the project has yielded two additional booklets, "Helicopters" and "A Day in The Life of a Jet Test Pilot", this year, with several others expected to be published within the next two or three months. In addition, a monthly fact sheet, "Skylights", is distributed free to schools.

SHORTAGE OF ENGINEERS

The continuing problem of the shortage of engineers has two facets which are of concern to the aircraft industry. One is the fact that the colleges and universities are graduating approximately 20,000 engineers per year, while American industry can profitably absorb 30,000.

There has been a steady downtrend in recent years. Of this 20,000, the aircraft industry attracts a smaller percentage of the total than might be expected. Part of the explanation for this lies in the lack of preparation of students by the secondary schools of the country. The AIA-NAEC Aviation Education Program should be useful, ultimately, in interesting students in choosing this road that leads to engineering careers in aviation.

The other facet is the growing reluctance on the part of Selective Service to grant deferments to engineers in this critical industry. AIA recently has made representations in this matter to the Department of Defense, Office of Defense Mobilization, Selective Service and the National Presidential Appeals Board, and will continue its efforts to bring about a more liberal treatment of requests for occupational deferments in the aircraft industry.

Meanwhile it is pertinent to mention that Senator Flanders has drafted a bill (S. 3068) to amend the Universal Military Training and Service Act by taking cognizance of the necessity for "maximum effect in the fields of scientific research and development, and, through the process of selection, the fullest possible utilization of the nation's technological, scientific and other critical manpower resources."

COOPERATION IN AIR FORCE RECRUITING PROBLEM

Recognizing the critical problem faced by the Air

Force in recruiting 200,000 replacements each year for the next three years, due to termination of enlistments, both AIA and its member companies have offered such help as they may be able to provide to cope with this serious problem of potential personnel shortages.

THE NOISE PROBLEM

Noise continues to be one of the most serious public relations problems facing the aircraft industry, the military and the airlines. As far as the manufacturers are concerned, the problem has developed chiefly in their own plant and test communities, and it arises over the increase in sound as a necessary result of increases in power for military aircraft. Many extensive and costly measures have been taken by individual companies to reduce the noise level generated on the ground and some degree of success has resulted. The problem of the reduction of in-flight noise at its source is much more difficult and no ready solution is in sight.

Practically all elements of aviation have concerned themselves with solution of this problem, including the Noise Control Committee of AIA. Others are the Air Force, National Air Transport Coordinating Committee, NACA and the CAA.

NATIONAL AIR TRANSPORT COORDINATING COMMITTEE

For the second successive year, AIA shared with Air Transport Association, individual airlines servicing the New York area, and the Port of New York Authority the cost of operations of the National Air Transport Coordinating Committee.

The NATCC was organized at the time of the closing of Newark Airport as a result of the three airline crashes in nearby Elizabeth, New Jersey. It embarked on a program to improve air traffic conditions in the metropolitan New York area and, through informational and educational efforts, to improve public understanding of true conditions. It since became apparent that the principal underlying reason for public resentment around New York's airports was the noise problem, and much of the corrective and educational work has been directed toward solution of that problem.

Support was accorded the NATCC because of the far-reaching effects that any extreme deterring action in the New York area might have on other air traffic centers about the nation. NATCC has offered the results of its findings and its operations to any city with similar problems. It has given consultation to such cities as Boston, Pittsburgh and Louisville, where hostile public attitudes have developed.

HELIPORT STUDY

Highly satisfactory progress has been made in the last year by the helicopter segment of the industry. Not only have the military services increased their orders for these craft, but it becomes apparent that substantial numbers of rotary wing aircraft will find increasingly useful application in other than the military field.

Recently, the Helicopter Council of AIA engaged in an exhaustive study of heliport requirements. The Air Transport Association has collaborated with the AIA in the development of the study.

UTILITY AIRPLANES

Important steps have been taken during the year in expanding both the markets and the usages of aircraft in business, industry and agriculture. Not only are the higher estimated figures for aircraft usage attributed largely to an increase in business flying, but the Utility Airplane Council anticipates that this trend will continue. In 1954 there were significant advances in development of aircraft especially suited to business and agriculture flying. There are indications that more and more businesses and industries are discovering the efficiencies, conveniences and economies inherent in the use of aircraft of this type.

PATENT POLICY AND SUPPLEMENTARY SOURCES

The Patent Committee reviewed during the year a proposed revision of Section IX of the Armed Services Procurement Regulation, prepared by the Department of Defense. The committee has proposed changes to the Defense Department draft. Several AIA company heads and members of AIA staff also have expressed their views on this subject to Mr. Webster and other representatives of the Office of Supply and Logistics. The AIA has requested that the industry be given an opportunity to review the results of the DOD's latest version of Section IX, ASPR.

Similar representations have been made regarding the subject of "Secondary Sources of Supply", which has been under study in the Office of Supply and Logistics for several months. One of the questions pertaining to that item is the decision as to whether it will be included in ASPR, or dealt with separately as a Defense Department directive.

INDUSTRY USE OF GOVERNMENT TEST FACILITIES

As the USAF-NACA Unitary Plan wind tunnel test facilities near completion, increased attention has been directed to developing procedures for their use by industry. Two areas of especial importance are the scheduling of industry test time and the development of methods and procedures for the facilities operations. A major step toward solving the scheduling of industry test time has been taken through the development by NACA of a detailed directive allocating time for government projects and commercial-type projects. Equally encouraging is the recent conclusion of the Department of Defense that efforts will be made to develop policies for use of these facilities on a fee basis as soon as sufficient experience is gained. This approach is heartily endorsed by the aircraft industry which has long advocated the fee system of operation for wind tunnels of the Unitary Plan.

UNIVERSITY COMPETITION

Although incipient in its effects, the tendency toward placement of development and applied research contracts with universities has been a matter of concern to AIA. While recognizing that basic research is a proper function of the universities, the aircraft industry contends that primary contracts in applied research and development awarded to such institutions constitute unfair competition. Not only do tax exempt and publicly supported or privately endowed institutions enjoy an unreasonable competitive advantage, but they are thus able to draw away engineers from the industry.

The AIA has made representations of the facts to the Department of Defense and to the National Science Foundation, and will continue to seek a solution of this problem.

FEDERAL CATALOGING

The Federal Cataloging plan implemented by the Department of Defense has been reviewed very carefully by AIA. As a result, certain revisions for the cataloging of aeronautical products have been recommended to the Department of Defense and to the military services. Although most of the AIA recommendations have been rejected by the Department of Defense, AIA will continue to urge revision of the cataloging plan as applied to the aircraft industry.

COMMITTEE TO ADVISE ON MACHINE TOOL PROCUREMENT

With the announcement that \$100 million would be allocated to the Armed Services for procurement and stockpiling of machine tools, AIA has been called upon by the Air Force, which has the largest proportion of the fund, to nominate four members of industry to serve on an advisory committee to the Air Materiel Command. Nominations have been submitted and the action of the AMC is awaited.

TITANIUM USE IN AIRCRAFT MANUFACTURE

The intense interest of the Government and the industry in the use of titanium in aircraft manufacture has been reflected in the activities of the AIA. Two major projects in this field were the AIA-conducted symposium on titanium standard parts and a survey undertaken at the request of the Defense Department to determine the advantages and disadvantages of the use of titanium in aircraft and aircraft engines. This survey, which took into consideration such elements as performance, size, weight, payload, and cost, will serve as a broad guide to the government in balancing the cost of the titanium program against the gains in aircraft performance resulting from its use.

SMALL BUSINESS ACTIVITIES

Although the aircraft industry follows the practice of subcontracting large proportions of its business, it is cognizant of the fact that problems may arise in this field as production levels are lowered. During the year various small companies engaged in subcontracting and other work in connection with the defense program formed an association called the Small Defense Industries Association (SDIA). It is understood that major activities initially will be carried on in the Southern California area. The stated purpose of this group is to give improved service to prime contractors, to achieve higher efficiency in their company operations, to reduce costs, and to represent the needs of small business for a substantial percentage of subcontracting work in order that it may contribute most effectively to the strength and flexibility of the overall mobilization base.

NATIONAL AIR MUSEUM

In 1953, AIA and Air Transport Association shared equally in the cost of an architectural survey for a suitable National Air Museum in Washington to house and display the important relics of aviation, now wide-

ly scattered. The survey is being conducted by the Smithsonian Institution, which is administering the \$25,000 survey fund.

Recent reports by the Smithsonian management are that the drawings, specifications and recommendations are nearly complete and will be ready for presentation to the next Congress. A public law authorizing the Museum was passed several years ago, but no money has been appropriated. It is expected that Congress will now be asked to provide the funds for this important and interesting project.

COOPERATION WITH AMERICAN LEGION

One of the most fruitful of AIA's cooperative efforts with national organizations has been its relationship with the American Legion. That great patriotic organization has long contended that air power is the keystone of national security, and it consistently reflects the belief that a prerequisite of survival is a national air power policy and long-range plan. It was the privilege of AIA to work with the American Legion in production of a notable report to the American people, "Air Power in an Age of Peril". The National Commander has announced that this report has received wide acclaim from the Congress, newspapers and the general public.

NATO SPARE PARTS REQUIREMENTS

One of the more important situations on which the Export Committee have made a contribution during 1954, is that of promoting a comprehensive study of NATO aircraft spare parts requirements. The Government has been anxious that American manufacturers anticipate these requirements by making licensee or other facilities available in Europe and Japan in order to avoid potential critical shortages.

A part of this activity is the establishment by the Defense Department of cut-off dates beyond which certain of the older aircraft will no longer be supported by the United States Government.

AIR FORCE-AIA TRAFFIC SERVICE LIAISON

Important progress was made by the Traffic Service in development of a cooperative plan with the Air Materiel Command whereby AMC transportation directives are discussed and reworked before being published. This is making for maximum efficiency and economy in such matters and already has permitted substantial dollar savings for both government and industry. During the year, the Traffic Service continued its watchfulness over the rates and charges for transportation paid by AIA members and their cus-

tomers. By filing complaints and formal representations in cases where inequities or discrimination may exist, AIA members and the military services have been saved enormous sums in transportation charges over the years.

PUBLIC SERVICE BY AIA MEMBERS

Several high executives of AIA member companies have given liberally of their time and effort through service on various Commissions, Task Forces, and advisory committees formed during the year. Mr. Mundy Peale, President of Republic Aviation Corporation, currently is a member of a Hoover Task Force on Government Procurement Procedures. Mr. Peale also is serving on a Committee appointed by the Assistant Secretary of Defense for Supply and Logistics. Mr. Robert E. Gross, Chairman of the Board of Lockheed Aircraft Corporation, headed a subcommittee of the Cooper Committee, which was appointed by the Secretary of Defense, to study the organization of fiscal management in the Defense Department. This particular task has been completed and the committee dissolved.

Mr. George Chapline, vice-president of Fairchild Engine and Airplane Corporation, is serving on a committee of the Assistant Secretary of Defense Supply and Logistics to study and recommend on the disposal of surplus property.

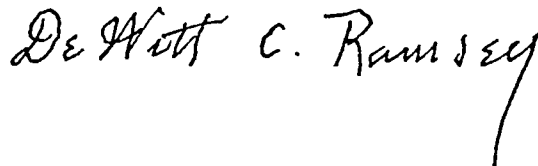
ADMINISTRATIVE, FINANCES, MEMBERSHIP

A proposed budget for 1955 is being submitted to the Board of Governors within the limit set by the Board as the dues target. Continued increases in aeronautical sales have made it possible to reduce the dues rate again.

The number of manufacturing members is the same as a year ago, but the number of other members decreased by three. Of especial importance was the addition of Chance Vought Aircraft, Inc., occasioned by its separation from United Aircraft Corporation. Offsetting this increase was the absorption of Radioplane Company by Northrop Aircraft, Inc.

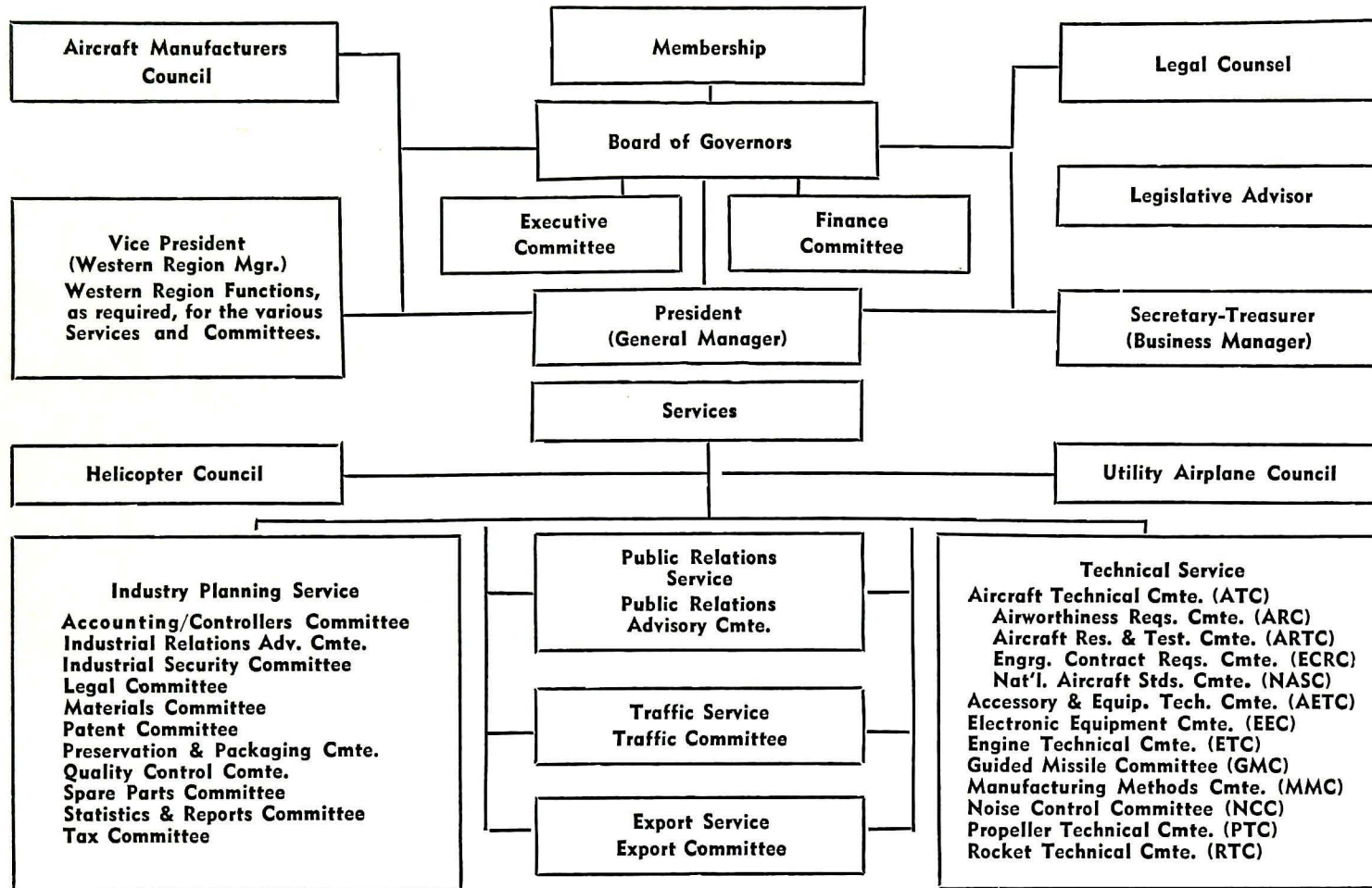
The Treasurer's report will be submitted to the Board of Governors as soon as the annual audit of the financial records of 1954 has been completed.

Respectfully submitted,



DEWITT C. RAMSEY.

AIRCRAFT INDUSTRIES ASSOCIATION OF AMERICA, INC.



REPORT ON OPERATIONS

For the Fiscal Year Ended October 31, 1954

ORGANIZATION AND FUNCTIONS

The Aircraft Industries Association of America is the national trade association of the manufacturers of aircraft, engines and accessories, parts and materials used in the construction and operation of aircraft. All major airframe and engine manufacturers, and virtually all major suppliers of aircraft equipment, are members of AIA and participate in its activities.

The Association concerns itself with the industry-wide aspects of aircraft research, development and production. It represents the industry's viewpoints and interests to the Government, the Congress, the Military Services, allied and other industries and to the many segments of the public. It is vigilant of legislation and regulations that might affect the aircraft industry. It attempts to work out cooperatively among its members and with cognizant agencies and organizations the solutions to problems of common interest.

Policy direction of the Association's activities is vested in a Board of Governors which is composed of the chief executive officers of various member companies. Under this overall policy guidance the AIA activities are carried on by committees and councils representing every phase of aircraft production and aircraft industry management. Each committee consists of high level company representatives especially qualified in the various fields of responsibility.

Through its seven Services and 27 committees (see organization chart on opposite page), the Association provides facilities for handling the multitude of technical, financial, legal, tax, public and industrial relations, patent, traffic and other problems. The helicopter and utility interests of the Association are banded under councils, each of which has staff service.

The Aircraft Industries Association is made up of 136 members, 118 of which are voting members and 18 of which are affiliates. The categories of voting membership are composed as follows:

	MEMBERS
DIVISION A—Manufacturers of aircraft, aircraft engines or engines.	38
DIVISION B—Manufacturers of accessories, parts or materials used in aircraft construction or operation.	52
DIVISION C—This class includes miscellaneous persons and firms interested in aviation. (New applicants of this type are only eligible for "Division of Affiliates" membership.)	28

As shown on page 6, the Aircraft Industries Association is organized under a Board of Governors and under regional (Eastern and Western) Executive Committees of the Aircraft Manufacturers Council. Chief executive officer is the President, who also is General Manager, while a Vice-President performs the duties of general manager of the Western Region office at Los Angeles. The seven AIA Services, including the Utility Airplane Council and the Helicopter Council, operate under direction of the President.

Reports of operations of the various Services and Committees are continued in the following pages.

INDUSTRY PLANNING SERVICE

The Industry Planning Service deals with important problems affecting the business and administrative operations of the aircraft industry.

It maintains close liaison with the military services and with other Governmental agencies in connection with the multitude of laws, regulations, directives and specifications which affect the business activities of the industry.

The committees served by the Industry Planning Service are: Accounting and Controllers, Legal, Materials, Patents, Preservation and Packaging, Industrial Relations, Industrial Security, Quality Control, Spare Parts, Statistics and Reports, and Tax.

The following is a summary of the activities of these committees during the past year:

ACCOUNTING AND CONTROLLERS COMMITTEE

This committee deals with problems affecting financial management within the industry and therefore is primarily concerned with the procurement policies and procedures of the Department of Defense as set forth in the Armed Services Procurement Regulation. During the past year this committee, both directly and through its Procurement Regulations Subcommittee, has worked with the Department of Defense and the military services in the development of directives and regulations that will permit maximum efficiency of operation in the industry. Some of the major activities have been:

Air Force Maximum Liability Clause

Following the adoption by the Air Force of a policy of fixing the "maximum liability of the Government" under fixed-price, incentive-type contracts, this committee met with representatives of the Air Force in an endeavor to have the clause modified in an equitable manner. As a result of these meetings the clause is no longer required.

Contract Termination

The Procurement Regulations Subcommittee of this committee has continued to work with the Department of Defense and the three military services in the solution of problems which have arisen in connection with the administration of Section VIII of the Armed Services Procurement Regulation regarding the settlement of terminated contracts. One of the major changes which has been made in this regulation was the increased authority given to prime contractors (from \$1,000 to \$10,000) in making settlements of termination claims of subcontractors, without requiring prior approval of the Contracting Officer. A few of the problems which are currently being discussed with the Department of Defense and the military services pertain to the screening and disposition of excess property, plant clearance, formula settlements, etc.

This section of the ASPR is now being reviewed by the Department of Defense and the three military services and will be entirely revised in the near future. Prior to its publication, the AIA expects to have an opportunity to review and submit comments on the proposed revision.

CPIFF Contract Clauses

Industry experience over the past year has been unsatisfactory with regard to certain of the clauses that are now required by Section VII of the ASPR's for use in cost-reimbursement-type supply contracts. Some of the clauses that are considered to be either inequitable or impractical from industry's standpoint are: insurance and liability to third parties, allowable costs, method of payment, inspection, delays in performance and the clause relating to change orders. The Procurement Regulations Subcommittee is now preparing a brief setting forth in detail industry's position on these clauses. The Department of Defense is willing to reconsider its position on these matters upon the presentation of new evidence in support of the industry's position.

Cost Principles

The use of the CPIFF contract cost principles (ASPR Section XV) by the military services as a guide during the negotiation of fixed-price contracts has been the cause of many industry problems. The Department of Defense has been endeavoring to revise ASPR Section XV to make the cost principles contained therein applicable to fixed-price contracts and all terminated contracts, as well as to CPIFF contracts. The AIA has been informed that efforts are still being made to enlarge the scope of ASPR Section XV to the extent indicated above, although there is considerable sentiment in the Defense Department to limit any such revision to CPIFF contracts. When the final draft of a revision of ASPR Section XV has been coordinated within the Department of Defense, the AIA has been assured an opportunity to review such draft and submit comments for DOD consideration prior to publication. Accordingly, it is anticipated that this committee, during the coming year, will devote a considerable amount of effort to the study of the proposed revision since there are several types of costs that are not now properly covered by this section.

Price Escalation Clauses

At the request of the Department of Defense, this committee reviewed and submitted comments on a draft of certain types of proposed price escalation clauses for use in fixed-price contracts.

Letters of Intent

Following a request from the Department of Defense for review and comment on proposed forms for use in "letter contracts", this committee, through its Procurement Regu-

lations Subcommittee, submitted the coordinated comments of this industry. This matter is still under consideration in the Department of Defense.

Disputes Clause

Although the situation which grew out of the decision of the Supreme Court in the Wunderlich case was primarily a problem for the Legal Committee, it was also of considerable interest to the Accounting and Controllers Committee, since it affected the finality of any agreement with the Government. During the last Congress, the difficulty which resulted from this decision was remedied. (See Legal Committee Report.)

Subcontractor Use of Government-Owned Manufacturing Facilities

The Air Force has recently announced a policy which requires subcontractors using Government-owned facilities to submit two quotations for review by the contracting officer. One quotation is to be on the basis of rent-free use of such facilities, and the other on the basis of an appropriate rental charge. This matter is currently under consideration by the Procurement Regulations Subcommittee of this Committee.

California Personal Property Tax Situation

The counties of the State of California have levied a tax assessment upon personal property in the possession of contractors which is incorporated in products sold to the Government. The industry's position is that assessments on property incorporated in products furnished under CFFF supply contracts, and to the extent of progress payments made under fixed-price contracts amount to a tax levied upon property of the United States, because of the title clause in both such types of contracts, and therefore are invalid. The military services and other agencies of Federal Government concerned have been cooperating with industry in this matter.

Legislation was introduced in the last Congress which, if enacted, would have permitted the states to tax tangible personal property which is in the possession of the person who produces it, even though title to the property is in the United States. It is expected that a similar proposal will be introduced in the 84th Congress.

Tax Clauses for Fixed-Price Contracts

At the request of the Department of Defense this committee submitted comments on a draft of a proposed revision of the tax clauses used in fixed-price contracts. These clauses are of particular interest in view of their relationship to the over-all problem of federal, state and local taxes as well as the California personal property tax situation.

Research and Development Contractual Practices and Procedures

Following a request from the Department of Defense for assistance in its study of research and development contrac-

tual practices and procedures which have caused dissatisfaction and which may affect the willingness of contractors to perform research and development work under contract with the military services, detailed comments and recommendations were forwarded to the Department of Defense near the end of the year 1953. Since then, the AIA has been informed that these comments and recommendations are receiving serious consideration with such procurement matters. In cooperation with appropriate groups within the Department of Defense, this committee is active in obtaining amendments to the ASPR's which will improve the administration of research and development contracts.

Payments to Issuer of Tax-Exempt Obligations

As passed by the House of Representatives, the proposed Internal Revenue Code of 1954 contained a provision which, for tax purposes, would disallow payments made for the use or occupancy of property acquired or improved by any state with the proceeds of any industrial development revenue bond issue. If enacted, this provision would have resulted in the non-deductibility of rental payments paid to any state or municipality for the use of facilities acquired or improved through the issuance of industrial development bonds. Because a number of companies in this industry occupy or use property owned by state or municipalities, this committee, in conjunction with the Legal Committee, prepared and filed a statement on behalf of the AIA with the Senate Finance Committee, setting forth the harmful effect of this legislation upon the aircraft manufacturing industry. As finally enacted, the Internal Revenue Code of 1954 did not contain this provision.

Progress Payments

In order to discourage the buildup of excessive inventories, the progress payment policy of the Department of Defense was drastically changed during the latter part of 1953. Following representations made by this and other industries this policy was modified to conform more nearly to commercial practices. The detailed regulations covering progress payments are expected to be ready for industry review within the near future and this committee will devote considerable attention to them.

Accelerated Amortization as a Cost in Contract Pricing (True Depreciation)

With the establishment of a Defense Department policy allowing "true depreciation" as an item of cost in contract pricing, each of the military services established an Emergency Facilities Depreciation Board to pass upon applications from contractors and to making determinations of "true depreciation." Because each case was a matter of individual company concern, this committee did not concern itself with the individual problems of the companies regarding the presentation of their cases and in the making of the determinations, except that a close liaison was main-

tained by staff representatives with the respective Depreciation Boards of the three services.

During the past year, however, three changes occurred in connection with the over-all subject of "true depreciation." The first was an amendment to DMO 11, by the Office of Defense Mobilization, placing the sole responsibility upon the Department of Defense for making determinations of "true depreciation." A second development changed the concept of "post-emergency usefulness" of an emergency facility. This change provided that one of the principal considerations, in making determinations of "true depreciation," should be the potential use value of the facility to the *particular* contractor concerned after the emergency period. This committee had endeavored to have this concept spelled out in the original Directive. A third development was an amendment to the DOD Directive and provided that "whenever a major portion of the cost of facilities in substantial amount is to be reimbursed to a contractor as an element of product prices during a relatively short period, it will be expected in appropriate cases that consideration will be given in negotiation to protecting, by appropriate agreement, the Government's interests in the continued availability of the facilities for defense use." Although a similar provision had appeared in the original draft of the Directive, subsequently deleted because of uncertainty as to its meaning and effect, this provision has been interpreted by the services as merely expressing in the Directive the authority which the military services already have.

Engineering Change Procedures

Though partially remedied by the increase from \$1,000 to \$10,000 in the authorization to a prime contractor for the settlement of claims of suppliers and the concomitant authority to dispose of excess property, this Committee is still concerned with the financial aspects of engineering changes. Accordingly, several meetings have been held with Air Force personnel for the purpose of endeavoring to facilitate the handling of these matters. At the present time, the procedure followed by the Navy in connection with engineering changes is also being reviewed by the Procurement Regulations Subcommittee of this Committee.

Other Problems

During the past year this committee has considered numerous other problems such as: bailments, war damage insurance, pension and retirement plan costs, engineering service contracts, retention of contract records, civil defense costs, security costs, interest costs, Government-furnished property and renegotiation.

LEGAL COMMITTEE

The membership of this Committee consists of the principal legal officer or counsel of the member companies.

Disputes Clause

Of major concern to this Committee was the situation resulting from the decision of the United States Supreme Court in the Wunderlich case that a departmental decision regarding a question of fact is final, even though arbitrary, capricious, or grossly erroneous. The Legal Committee recommended a revision of the Disputes Clause contained in the Armed Services Procurement Regulation so as to overcome the effects of this decision. Subsequently, the standard Disputes Clause was amended to the satisfaction of the aircraft manufacturing industry.

Other industry groups, however, sponsored legislation which went considerably beyond what the aircraft manufacturing industry considered necessary, and as a result the McCarran Bill (S.24) was introduced and passed by the Senate. At hearings held by the House Judiciary Committee, a representative of the aircraft manufacturing industry appeared and testified in opposition to S.24 in its then existing form. Thereafter, a task group of the Legal Committee in cooperation with other industry groups, the General Accounting Office and the Department of Defense, worked out a substitute for the language contained in the revision of S.24 as passed by the Senate. This substitute was accepted by both the House and the Senate.

Cost-Reimbursement Type Contracts

In cooperation with the Accounting and Controllers Committee, the Legal Committee has participated in discussions on unsatisfactory provisions contained in certain clauses prescribed for use in cost-reimbursement type supply contracts. This Committee prepared a brief for presentation to the Department of Defense urging a reappraisal and reconsideration of certain provisions contained in such clauses.

Payments to Issuer of Tax Exempt Obligations

In conjunction with the Accounting and Controllers Committee, this Committee prepared and filed a statement with the Senate Finance Committee opposing a provision of the Internal Revenue Code of 1954, which would have resulted in the non-deductibility of rental payments to any state or municipality for use of facilities acquired or improved from the proceeds of industrial development revenue bonds. (See Accounting and Controllers Committee Report on this matter.)

California Personal Property Tax

In view of the legal aspects and proceedings which have arisen and will arise with respect to the assessment by certain counties in the State of California of a tax on personal property in the possession of contractors which is incorporated in articles sold to the Government, this Committee, the Tax Committee, and the Accounting and Controllers Committee, have been active in all matters pertaining to this problem. (See the Accounting and Controllers Committee Report.)

Tax Clauses for Fixed-Price Contracts

In conjunction with the Accounting and Controllers Committee, this Committee also was concerned with the legal aspects involved in the proposed revision by the Department of Defense of the tax clauses for use in fixed-price contracts. (See Accounting and Controllers Committee Report.)

Other Problems

In cooperation with the Accounting and Controllers Committee, the Legal Committee has been concerned with problems relating to the legal liability of contractors under bailment agreements, various problems of subcontractors, the retention and disposition of records, the various aspects of accelerated amortization (true depreciation) as an item of cost in pricing, state personal property taxes, problems arising under the Renegotiation Act of 1951, letter contract problems, flight risk insurance clauses, and problems arising under terminated contracts.

MATERIALS COMMITTEE

Availability of materials has presented no particular problems to the Materials Committee during the past year, except in "spot" instances where delayed placement of contracts, having schedules inconsistent with lead times, created unsatisfactory material delivery situations. Since there were no major availability problems, the Materials Committee concentrated on the materials aspect of mobilization planning, working with the Department of Defense, the military services, the Aircraft Production Resources Agency, the Office of Defense Mobilization, and the Business and Defense Services Administration, Department of Commerce.

Defense Materials System

On April 1, 1954, the Department of Commerce issued DMS Regs. 1 and 2 which established a revised and simplified Defense Materials System. The simplified DMS is essentially a preparedness measure in that it provides for a "framework type of materials control system" which will be in operation and constitute the basis for an orderly, rapid expansion of production in the event of a new emergency. Because of the confusion and delays caused by the lack of adequate materials control system in both the World War II and the Korean buildups, the Materials Committee early this year recommended to the ODM and the Department of Commerce that a framework control system be kept in use and suggested simplified procedures to be incorporated. The new BDSA Reg. 1 and 2 embody a large portion of these recommendations. Because further simplification is considered desirable and practicable the Committee continues to press for such action through wider application of the "significant item" concept.

Titanium

The Materials Committee followed closely the actions taken by private industry and by the cognizant Government

agencies to provide for adequate titanium production facilities. The actions taken indicated that, in view of the many uncertainties existing with respect to the use of titanium, a reasonably adequate program had been set up. As a consequence, the Materials Committee's principal activity with respect to titanium has been to report estimated requirements and to find a practicable method for disposal of scrap.

Aircraft Production Resources Agency

On 30 March, 1954, the Department of Defense issued a formal charter for this important materials agency. This action, which assures the continued existence of APRA, followed a Materials Committee recommendation for the continuance of such a joint services agency. The committee continues to work closely with APRA, concentrating at this particular time on assessment of M-Day materials requirements.

Military Specification for Preparation of Bills of Material-MIL-B-8659A (ASG)

The Aeronautical Standards Group, representing the USAF and the Navy (BuAer), issued this specification on 29 April 1954. The newly issued specification incorporates the Materials Committee's previous recommendations, which emphasized reporting practices adapted to the materials procurement and control systems in use by the various member companies. By having one document control the content of all aeronautical Bills of Material, member companies can achieve savings through use of a standardized procedure.

The Materials Committee presently has the following active projects:

1. To obtain further simplification of the Defense Materials System (DMS) by urging wider adoption in DOD and APRA of the "significant item" approach in allotting controlled materials.
2. To bring about amendment of Bills of Material Specification MIL-B-8659A (ASG), to eliminate the Navy requirement that a Consumable Maintenance List be included in Bills of Material; also, to accomplish other minor amendments.
3. To help establish accurate data as to the amount of Aircraft Procurement Dollars ultimately going to Small Business.
4. To assist the Department of Defense in the development of a specification for Identification Marking of Materials at the producing mill.

PATENT COMMITTEE

This Committee concentrated its activities on the following subjects:

Armed Services Procurement Regulation Section IX

Early in the year the Patent Committee reviewed a draft of a proposed revision of ASPR Section IX, "Patents and

Copyrights." The revision had been prepared by the offices of General Counsel, DOD, and Assistant Secretary of Defense (Supply and Logistics). Although the Committee submitted a number of detailed recommendations for improvement, its principal recommendation was that the draft constituted the best approach which had been made toward providing equitable procurement regulations governing patent and copyright matters and showed an understanding of the interests of both the government and industry.

In the past six months the DOD and the military services have reached substantial agreement on a satisfactory revision of Part 1, "Patents," and Part 2, "Copyrights," and on a draft of a new Part 3, "Technical Data." How closely the new version follows that previously reviewed by the Committee is not known. Nor is it known what action was taken on the Patent Committee's previous recommendations. Consequently, it has been urged that industry be given an opportunity for further review and possible comment before the revised Parts 1 and 2 of Section IX ASPR become official. Since the Committee understands that an opportunity will be given to review the draft of Part 3, "Technical Data," the review of Parts 1 and 2 could conveniently take place at the same time.

Supplementary Sources of Supply

In Regulation AF 70-252 the Air Force has stated its policy on the establishment of Supplementary Sources of Supply for aircraft and related equipment, but the Department of Defense, the Army, and the Navy do not have written policy statements on this important question. The AIA has urged that a policy, generally similar to that of the Air Force, be expressed by the Department of Defense so that similar procurement action by the Army, Navy, and Air Force will be assured. In view of the close relationship of inventions, patents, technical data, proprietary rights, and production by a Second Source, the Patent Committee suggested early this year that the Department of Defense include a policy statement on Supplemental Sources of Supply in the revised Section IX ASPR, as a Part 4 of the Section. The President of AIA and officials of member companies, assisted by representatives of the Patent Committee, made several presentations on the subject to policy-making officials of the Department of Defense.

Patent Legislation, 83rd Congress (Second Session)

Public Law 703, Atomic Energy Act of 1954, enacted by the 83rd Congress, contained a highly controversial section relating to patents. Because a statement on behalf of AIA was already on file, no representations were made by the Patent Committee at this year's hearings on the bill. Since more member companies are entering the Atomic Energy field, the Patent Committee plans to review in detail the patent provisions of this law at its next meeting. An industry position will be prepared and made ready for submittal to the Joint Congressional Committee on Atomic Energy of the next Congress.

Interchange Agreements Between the United States and Foreign Governments on Technical Information and Patents.

A helpful exchange of information on the operation of existing interchange agreements and on the negotiations for additional agreements was effected by Patent Committee members during the past year.

The Patent Committee is working on the following additional items:

- Review of Codification of Military Laws to assess any changes affecting patents, copyrights, and proprietary rights;

- Consideration of action necessary to obtain discontinuance of use by the Government of contract clauses requiring Contracting Officer's prior approval of Contractor's payment of royalties;

- Study of the question of relationship of Government Contractor to Patentee;

- A follow-up on prospective state legislation on warranties against infringement.

PRESERVATION AND PACKAGING

The Preservation and Packaging mailing list continued as the source of industry opinion on this increasingly important phase of manufacturing. Because of the emphasis of the military services on adequate preservation and packaging and the rapid development of improved methods and procedures, Government specifications involved are subject to frequent revision. The Association has made contributions to these revisions by transmitting industry views. As activity in this field increased, it became apparent that the mailing list was not the most effective means of coordinating and presenting the industry's opinion; therefore, the President of AIA initiated action to form a Preservation and Packaging Committee. Nominations of prospective committee members were received from twenty-four Aircraft Manufacturers Council members. Eastern and Western Region organizational Committee meetings were held in October 1954, at which a statement of organization, function, and operation for the Committee was prepared. A proposed membership list and the statement of organization, function, and operation will be submitted to the Board of Governors for authorization as a regular AIA Committee under the Industry Planning Service. If the organization of this Committee is approved, the West Coast Specialists' Panel, which concentrates its activity on problems of preservation and packaging of airframe components and parts, will function as an adjunct of the Preservation and Packaging Committee.

The more important projects in the Preservation and Packaging field are as follows:

- MIL-P-116c—Preservation, Methods of.

- MIL-P-7936 (AER)—Preparation for Delivery of Naval Aeronautical Equipment.

- MIL-STD-129A—Marking for Shipment and Storage.

MIL-D-6054 and 6055—Reusable Metal Containers. Proposed Military Specification, Crates: Wood, Open, Domestic (for lightweight, bulky airframe items). Proposed Military Specification, Packaging of "O" Rings.

INDUSTRIAL RELATIONS ADVISORY COMMITTEE

Taft-Hartley Act

Although the last Congress made no changes in this labor-management legislation, the Legislative Subcommittee of IRAC has continued to study the various amendments to the Act in anticipation of activity in this area when Congress reconvenes.

Selective Service

At its national meeting in April 1954, the Committee authorized the Selective Service Subcommittee to review the Selective Service problems in the industry and to make appropriate recommendations which were approved by the whole committee. Thereupon, letters were sent by Admiral Ramsey to the Department of Defense, the Office of Defense Mobilization, the National Appeal Board, and the National Headquarters of Selective Service, setting forth the areas in which administrative changes were needed and making recommendations as to the nature of these changes.

Surveys and Research Activities

Staff has been increasingly active in conducting surveys covering wages, fringe benefits, and other company policies in the industrial relations field.

INDUSTRIAL SECURITY COMMITTEE

The issuance of the President's Executive Order 10501 in December of 1953 made mandatory a number of changes in the Industrial Security Manual, which is an attachment to the Security Agreement signed by all contractors when contracts for classified work are executed.

Several meetings have been held by this Committee with Department of Defense Industrial Security personnel to acquaint them with production difficulties and resulting expense which could develop unless these security requirement changes were implemented in an orderly manner. As a result, some of the suggestions advanced by this Committee were adopted and others are now under consideration for inclusion in the next revision of the Manual.

As sensitivity in the security field continues to increase, numerous changes in regulations, procedures, and forms are anticipated indicating that the work of this Committee will continue to expand.

QUALITY CONTROL COMMITTEE

In keeping with industry's responsibility for product quality, which was re-emphasized in DOD Instruction 4155.6 of 14 April 1954, the Inspection Committee has continued its

program of close cooperation and interchange of technical information among members. Subcommittee procedure, through which the combined recommendations of several highly trained and experienced specialists are made available to all committee members, was used effectively. In this manner improved procedures, which would have been difficult to develop through individual company action, have been made available to all member companies.

An equally important aspect of the Quality Control Committee's activity was the liaison with the inspection and quality control divisions of the DOD and the military services. Throughout the year the Committee reviewed existing or proposed Government specifications and bulletins and submitted recommendations based on cumulative industry experience with specific inspection procedures involved. Following the precedent of the successful joint military services-industry session at the committee's national meeting last year, the Committee has planned a similar meeting for November 1954. The direct exchange of ideas and points of view made possible by the joint meeting gives a mutually clearer understanding of the inspection problems faced by both Government and industry, and enables the representatives concerned to make better progress toward acceptable solutions.

Typical specifications and bulletins on which recommendations were submitted are listed as follows:

MIL-T-5021, Welding Procedure Certification Test; Identification Marking of Metals (still in process); MIL-C-6021B (ASG), Classification and Inspection of Castings (for aeronautical applications); Proposed ANA Bulletin for Radiographic Inspection of Aluminum and Magnesium Alloy Aircraft Castings; Non-destructive Inspection of Adhesive Bonds (jointly with ARTC and MMC).

The Committee has before it as active projects the following:

Determination of satisfactory minimum acceptance criteria for AN Standard Parts;
Casting Quality Improvement Program (joint project with ARTC);
Development of suitable recommendations to simplify existing procedures for Government source inspection;
Establishment of adequate inspection criteria to meet requirements of Guided Missile development and production;
Subcommittee study to increase usefulness of statistical quality control procedures in aeronautical inspection;
Subcommittee study on development of an inspection specification for large plates, billets, and forgings (joint project with ARTC).

SPARE PARTS COMMITTEE

This Committee is concerned with spare parts, special tools, test and ground handling equipment; parts catalogs and handbooks; Federal cataloging; training aids and training equipment. Committee members represent the entire

range of AIA membership—airframe, engines, propellers, accessories and electronics. The Committee's interests begin with the spares programming which precedes issuance of contracts, and extends through planning, spares provisioning, production, shipment and related paper work.

During 1954, forty projects were under study by the Committee. Their status is currently as follows:

Major projects on which action was concluded during the year _____	14
Other projects on which action was concluded during the year _____	5
Major projects on which action has not been concluded _____	16
Other projects on which action has not been concluded _____	5
Total _____	40

During the year the Committee concluded action on the following subjects:

Call Contracts for Spare Parts

Various recommendations were made to allow Air Force contractors call contract coverage, contractually and financially, during all twelve months of the fiscal year. Some of these recommendations were adopted.

Contractor Participation in Maintenance of Air Force Tables of Supply

Twenty-five member companies are now assisting the Air Force in an effort to improve various tables of supply.

Pricing of Production Lists

In answer to an Air Force request for the listing of prices on spare parts production lists, the Committee resolved that prices would be supplied as soon as possible without delaying accomplishment of the original purpose of the production lists, provided that the prices submitted were considered "budgetary" estimates only and not subject to negotiation by the Administrative Contracting Officer. The Committee has been advised that the Air Force is now preparing a directive to contracting officers along the lines of the Committee resolution.

Printing and Distribution of Parts Catalogs and Handbooks

In response to an Air Force inquiry, the Committee determined that although the matter was basically a military responsibility, valuable time could be saved in certain instances by contractor printing of handbooks and catalogs. Various recommendations for expediting this work were made to the Air Force and the Navy.

Proposed Air Force Control System—Program of Distribution

The Air Force asked the Committee to study a proposed system for categorizing spare parts to indicate expendabil-

ity, highest level of repair, the approximate unit cost, etc. After study the Committee submitted its recommendations for a few changes in the system.

Purchase of Vendor Spare Parts from Contractors

Over the past years the Committee has worked from time to time on Air Force-Prime Contractor-Vendor problems involving vendor spare parts and technical data. A panel recommended principles and procedures which would improve the handling of these matters to the prime contractors.

AMC Proposed Spare Parts Selection Procedure for Support of T.O. Kits

The Air Materiel Command forwarded for airframe contractors' review and comment, a copy of a procedure for the procurement of initial support of Technical Order Kits, made necessary by new funding regulations. The airframe companies agreed that the regulation is acceptable although some minor deviations to meet special situations may be necessary.

Mechanical Preparation of Spares Documentation

The industry's recommendation for revision of the Group Assembly Parts Breakdown to permit mechanical preparation was accepted by the Air Force.

Spare Parts Procedure for R&D Type Contracts

Industry members developed and submitted to the Air Force a proposed uniform spare parts procedure for R&D type contracts.

Consolidated Shipment of Low Value "C" Quota Items

The Aviation Supply Office proposed revising delivery requirements to permit consolidated shipment of low value "C" quota items for airframes. The airframe members of the Committee unanimously agreed to accept the Navy proposal.

Proposed ASO Instruction 5400.10, Airframe Design Changes; Procedure for Processing

The Aviation Supply Office requested consideration of a new streamlined procedure for processing airframe design changes. The airframe members accepted the proposal with recommendations for several minor changes and with the reservation that some individual company requests for deviations might be made.

The following are the major projects on which the Committee has not concluded action:

BuSandA Questionnaire and Minutes of Navy Spare Parts Provisioning Meeting

Members of an industry panel are studying the minutes of an all-Navy spare parts provisioning meeting which had been called to standardize and improve spares procedures.

Federal Cataloging

The Committee reviewed the Federal cataloging plans of the DOD as well as the Services' implementation. For a number of reasons it is believed that some modification of the general plan for aeronautical products is necessary. Questions of cost, delays, reliability and flight safety are of principal concern. The Services and the DOD have received the AIA recommendations and have rejected most of them. Nevertheless, AIA has been encouraged by its membership to continue its efforts to improve the plan.

Navy Spare Parts Provisioning Procedure

The Committee proposed three major areas of revision in the Navy Spare Parts Provisioning Document and offered to assist.

Provisioning Document for Special Support Equipment

The proposed Air Force provisioning document was studied by the Committee which endorsed the document's philosophy and intent and recommended some revisions. The Navy also is developing a provisioning document for this equipment, but it has not yet been coordinated with the industry.

Central Authority over Special Ground Support Equipment

In one of its most important areas of effort the Committee continued to urge the services to centralize procurement authority over the various types of equipment coming under this heading. Considerable progress has been made.

Rating Contractors on Spare Parts Delinquency

From time to time the Committee has advised the Air Force that its system of rating contractors (and depots) on the basis of spare parts delinquencies was not accurate or realistic. The Air Force is working on the industry request for a more equitable system.

Tardiness in Approval of Change Orders and Payments

This is another important item on the Committee's docket. Both the Navy and the Air Force have recently taken steps to cut down the time needed for approval of spare parts exhibits and for contractor's receipt of payment for shipments made. The Navy portion of this item is still under committee study.

Discontinuance of Provisioning Parts Breakdown after Provisioning

The Committee recommended that the PPB should not be required to be kept up to date after spare parts selection has been made by the services. This recommendation is now under consideration by the services.

Air Force and Navy Procedures on Preparation, Inspection and Approval of Handbooks and Parts Catalogs

A panel has submitted various questionnaires to mem-

bers to develop the problem areas in this field which has been expanded as a result of the service tendency of assigning responsibility for furnishing handbooks and technical data on vendor items to prime contractors.

Lack of Government Furnished Aeronautical Equipment Spares for Field Maintenance of Aircraft

Committee studies indicate that the number of airplanes out of commission for lack of spare parts is disproportionately high with reference to spare parts for Government furnished equipment. Although the subject is being given further study, preliminary representations are being made to the Air Force.

Stocking Ground Support Equipment at End Article Prime Depot

The Committee has recommended to the Air Force that product support would be improved by stocking ground support equipment at the depot where the airframe spares are stocked. This could be aided further if procurement, etc. could also be accomplished there. Discussions with the Air Force are continuing.

AIA Proposed Revision of AFR 67-86, Supply Support For Aircraft Test Programs

The Committee has made a series of recommendations to the Air Force for the revision of this document. The Air Force has replied that the regulation is being rewritten to incorporate all industry suggestions. The Committee also is making recommendations that the Air Force develop a contractual document covering aircraft development test program procedures rather than the present intra-Air Force manual currently issued for this type of information.

Hi-Valu Items Applications Summary

The Bureau of the Budget referred this subject to AIA for comment. The documents involved, namely MIL-H-8729 (USAF), AMS Form 250, and Amendment 3 to MCP 71-649, are under Committee study. The Committee's first advice to the Bureau of the Budget has been favorable to the hi-valu program, but additional time to study the proposal has been requested.

STATISTICS AND REPORTS COMMITTEE

During the past year the Statistics and Reports Committee continued its efforts to reduce to the minimum the number of reports required by the Government from the aircraft industry, and in doing so has worked closely with the Bureau of the Budget, the Air Force, the Navy, the Bureau of Census, the Bureau of Labor Statistics, the Advisory Council on Federal Reports, and with similar committees or groups in other industries.

As a result of the Committee's activities, 22 reporting requirements or proposed requirements were either disapproved or withdrawn by the sponsoring Government agency during the first six months of the year. In the case of 11 reports approved or reapproved during the same period, the majority reflected Committee recommendations.

Stemming from a Committee suggestion, the military services prepared and issued during the past year the first "reporting systems" guide specifically designed for the contractor, i.e., the AMC Guide for Air Force Contractors on the use of Air Force Industrial Equipment Reports. Efforts are now being made to have the use of this technique extended into other reporting areas where clarification appears necessary.

Hoover Commission "Task Force on Paperwork Management"

The Committee is assisting this Task Force in its study of the large volume of paperwork and record keeping required of business by federal agencies. Working groups within the Committee now are studying the "reports control" and "records retention" areas to develop an industry recommendation. Deadline for submittal of this recommendation is January 1, 1955.

Standard Industrial Classification Manual

All Committee recommendations on a suggested revision of Major Industry Code 372, "Aircraft and Parts," have been accepted by the Advisory Council on Federal Reports save that which establishes a "Guided Missiles and Missiles Equipment Systems" industry as Industry Code 3725. A dissent to and appeal of this decision will shortly be forwarded to the Bureau of the Budget.

Air Force Facilities Contract Reporting

At the request of the Budget Bureau and the Advisory Council on Federal Reports, the Committee has been studying the extent of, and problems connected with, reporting on Air Force Facilities Contracts. Industry representatives have recently been appointed to an ACFR panel aimed at simplifying and reducing the paperwork in this area.

"Aviation Facts and Figures"

The 1953 edition, published last December, brought up to date the material in the 1945 edition, and extended into areas not covered at that time. Trade reaction was de-

cidely favorable. Research work has been initiated for a new edition to be published at a yet undetermined date.

"The Aircraft Industry and Its Effect on the National Economy"

At the request of the Public Relations Service, the S & R staff undertook during the year a survey of the effect of the aircraft industry on the national economy. Drafts of four chapters have been completed and forwarded to Public Relations for review and comment.

Statistics

In addition to the ninth issue of the "Financial Situation of the Airframe Manufacturing Industry," the S & R staff continued publication of the series on civil aircraft shipments, labor turnover, and average hours and earnings. During the year, two new series were instituted, viz., "Employment in the Aircraft and Parts Industry" and "Aircraft Procurement: Obligations, Expenditures by Month."

TAX COMMITTEE

The membership of the Committee is composed of companies in the Western Region of the United States, the majority of such companies being located in the State of California. Accordingly, though concerned with over-all tax problems, the principal concern of this Committee is with respect to state and local tax matters.

The matter of principal concern during the year 1954 was with respect to the personal property taxes assessed by certain counties in the State of California with respect to property in the possession of contractors for incorporation in an end item sold to the Federal Government. The members of this Committee consulted with and furnished advice to the members of the Accounting and Controllers Committee and the Legal Committee in connection with the various ramifications involved in this problem. Other matters handled by this Committee were primarily of a local nature, as affected by the administration of state and local tax laws and regulations.

TECHNICAL SERVICE

Through its various technical committees, the Technical Service has served as the channel through which the industry-wide engineering policies and programs are implemented and through which collective action has been taken on companies' mutual problems of research, design, development and manufacturing.

Of particular note in the Technical Service's program has been the added emphasis on cooperative activities in the accessory and equipment fields. Due to wide diversity of interest it has taken several years to evolve the optimum organization, scope and operating procedures to best serve the needs of the equipment manufacturers. Further efforts are being made to integrate the various aeronautical industry segments' activities, particularly in the field of government specifications and standards, to better serve the military and to provide a stronger industry voice.

Of interest has been the recent establishment of a manufacturers' technical committee in the Air Industries and Transport Association of Canada with a number of the same representatives who were charter members of the AIA's technical committees some years ago.

Supersonic Circuit of AEDC Propulsion Wind Tunnel

As a result of inquiries from the Air Force and the Office of the Assistant Secretary of Defense for Research and Development, a survey was made of the AIA technical committees to determine the extent to which industry's product-development needs would require a supersonic circuit in the Arnold Engineering Development Center's Propulsion Wind Tunnel. Following a review by AIA's Board of Governors, industry recommended that the Department of Defense complete engineering design studies as well as capital investment and operating cost studies of this particular facility.

Procedures for Operation of Unitary-Plan Facilities

As the NACA and Air Force Unitary Plan test facilities near completion, greater interest has been focused on the method of operation and procedures for scheduling industry test time. A detailed directive has been developed by the NACA based on an allocation of time between government projects and commercial-type projects. The industry strongly favors a fee-system of operation of all government facilities intended for development use by industry. The Department of Defense's recent conclusion, therefore, that, as experience is gained with the new major-test facilities, an effort will be made to develop a suitable budget and funding policy based on a dollar-type "operator-user" relationship, is encouraging to industry.

Weapons System Concept

The initial concern of the equipment industry over the Air Force's announcement of its "weapons system concept"

of procurement through a single prime contractor has been largely overcome. The Air Force has issued policy statements and implemented these by directives, such as AFR 20-12, which indicate the important role the equipment manufacturers are to play in the continued development of aeronautical accessories and equipment. Further clarification and delineation of the Air Materiel Command—Air Research and Development Command relationships also served to alleviate some of industry's problems.

Titanium Use Evaluation

At the request of the Defense Department, AIA conducted a survey of its members to determine the advantages and disadvantages of the use of titanium in future aircraft and engines. Particularly desired was its impact in terms of performance, weight, size, pay load and cost. While the data and information compiled have a security classification, their evaluation by the Air Force revealed how much the use of various amounts of titanium in airframe and propulsion systems would increase performance. These survey data will serve as a general guide to the government in weighing cost of the titanium production program against operational gains arising from better aircraft performance.

Environmental Requirements and Application

With continuing increases in altitude and speed, the environmental conditions under which aircraft and missile equipment and systems must function have become critical problem areas. Extreme variations in vibration, temperature and humidity, together with rigid weight and size limitations, have made it essential to develop new environmental design and testing criteria and to integrate these with the requirements for airframes and missiles and their propulsion systems and equipment. Intensive cooperative effort among all segments of industry and the military services is essential to even keep abreast of the mounting challenges in this field.

Government-Industry Relationship Re Civil Type Certification

Consideration was given to a proposal by the CAA Administrator that three alternative methods be evaluated for increasing the manufacturers' responsibilities in the civil type certification of their products. It was the opinion of industry that the CAA should exercise, as its responsibility under the Civil Aeronautics Act, whatever minimum surveillance is required to insure that type and airworthiness certificates are not issued by the government for products found to be unairworthy.

Senate Bill S. 2647-Proposed Civil Aeronautics Act of 1954

In testimony requested by the Senate Interstate and Foreign Commerce Committee regarding legislation proposed by the late Senator McCarran, the industry recorded its views as follows:

"The aircraft manufacturing industry's interest in this legislation pertains primarily to its effect upon (1) the development of safety regulations, (2) the administration of safety regulations for the purposes of product certification, and (3) accident investigation. Insofar as this industry is concerned, the present Civil Aeronautics Administration and Civil Aeronautics Board organizations, their relationship to each other, and the division of their assigned functions and responsibilities provide smooth and efficient instrumentalities in these three fields. The member companies of AIA therefore are opposed to any major reorganization of the civil aeronautics structure, and urge that any improvements found necessary in specific provisions of the present Act be incorporated in it through amendment."

Nominations for NACA Committees

This year, as in previous years, the Aircraft, Engine, Propeller and Rocket Technical Committees submitted nominations of their respective company engineering specialists who are outstandingly qualified and available for selection by the NACA to fill vacancies on the latter's technical committees.

AIRCRAFT TECHNICAL COMMITTEE (ATC)

At its national meeting in May the ATC devoted primary attention to a detailed review of the scope and activities of its various subcommittees to insure efficient and effective service. During the past year the following items have been considered:

Air Force Aircraft Flight Loads Policy

The Air Force has been urged to reconsider its policy on flight-loads measurements on all new aircraft designs. The amount of instrumentation needed and the number of flight conditions to be investigated should be negotiated with each contractor, taking account of the external configuration of the airplane and its performance as compared with previous designs. This procedure would result in the least cost and disruption of production while still accomplishing the purpose of insuring aircraft of satisfactory structural integrity.

Air Force-Navy Standardization of Airplane Design Requirements

Notable achievement in standardization of utility parts and hardware items has marked the cooperative efforts of the Air Force and Bureau of Aeronautics. In basic airplane design requirements, however, and particularly in the structural strength and flight-test demonstration areas, the degree of progress towards uniformity of requirements has

been disappointing. A concerted Department of Defense program should be undertaken to accomplish all phases of Air Force-Navy standardization recommended by the Federal Aviation Commission in 1935.

Conduct of Military Aircraft Flight Demonstrations

There is an increasing need for manufacturers to have the option of conducting airplane preliminary and final flight-test demonstrations at the contractor's facility rather than at central test centers such as Muroc and Patuxent. In addition to reducing cost and time, testing at the contractor's plant (or a nearby location) also would reduce the potential risk that exists in ferrying any new type airplane across country particularly at an early stage of the program.

Other Projects of Current ATC Interest

- Operation of NACA and AEDC Unitary Plan Test Facilities
- Fee vs Non-Fee System of Operation of Government-Owned Test Facilities
- Machine Methods for Tabulating Weight Data
- Legislation re Civil Aeronautics Act
- Symposium on Aircraft Powered Flight Controls
- ACC Policy Report on Civil Aviation

AIRWORTHINESS REQUIREMENTS COMMITTEE (ARC)

The past year has seen an increase in activity applied to military airplane design requirements, including review and recommendations on the following:

- MIL-S-5700 (USAF)—Air Force Airplane Structural Criteria and Strength Test Demonstrations.
- MIL-F-8785 (ASG)—Air Force and BuAer Criteria on Airplane Flying Qualities.
- MIL-A-8629 (Aer) —Navy Specification on Airplane Strength and Rigidity.
- MIL-STD-203A —Air Force and BuAer Requirements on Cockpit Controls.

The separate areas of aircraft industry interest, namely transport, helicopters and utility aircraft, have been dealt with by divisions of ARC as follows:

ARC TRANSPORT COMMITTEE

Turbine Transport Regulations

The Committee assumed leadership in developing proposed turbine transport airworthiness regulations which were discussed at the September 1954 Civil Aeronautics Board's Annual Airworthiness Review attended by airlines, airline pilots and manufacturers, as well as all interested government agencies and representatives of several foreign countries. As a result, the forthcoming revised Civil Air Regulation Part 4b will be more suitable for type certification of new turbo-prop and turbo-jet transports.

ICAO Airworthiness Annex 8

Continued inability (since 1944) of the member countries of ICAO to reach agreement on international performance requirements for transport aircraft prompted AIA to urge the Air Coordinating Committee to reconsider the U. S. position on all international airworthiness standards. As a result, the United States has abandoned the concept of detailed aircraft design rules for ICAO adoption, as now contained in Annex 8, and has adopted a new approach initially advocated by the AIA committees in 1945, namely to rely upon nation's domestic standards for airworthiness certification and to adopt only broad objective rules (in ICAO) to permit freedom of international air navigation.

Additional Projects

The Committee also provided industry opinions to the CAA and CAB on the following airworthiness rules:

- Thermal and Pneumatic Boot Ice Protection Systems
- Emergency Equipment and Procedures for Air Carrier Operations
- Reverse Thrust for Landing Distance Determination
- Smoke and Fire Detectors
- Automatic Pilot Systems
- Approval Procedure for Anti-skid Devices and Installations
- Load Circuit Connections to Storage Batteries
- Flight Tests and Test Procedures for T-Category Aircraft
- Stall Characteristics for Jet Transports

Powerplant Installation Subcommittee

This subcommittee, which has been the most active in the ARC, has worked on the following projects:

- Turbine Powered Aircraft Fire Prevention Manual
- Structural Criteria for Turbo-Prop Engines
- Turbo-Jet Specification Performance Presentation
- Jet Engines for Missile Application
- Turbine Engine Installation Data List
- Emergency Fuel Systems
- Turbine Engine Fuel Controls and Inlet Screens
- Engine Starting Systems

ARC HELICOPTER COMMITTEE

Increased airline and military interest in multi-engine helicopters eligible for commercial certification has speeded the development of airworthiness rules for a transport category. While single-engine helicopters (below approximately 20,000 lbs. gross weight) would be eligible for limited scheduled passenger operations under contact conditions, all-weather operation would be restricted to multi-engine helicopters having positive performance with one engine inoperative. The industry participated actively in the CAB's Annual Review of Part 6 and continues to assist the CAA in developing the new T-Category rules.

Helicopter Operation Rules

In June 1954, the Civil Aeronautics Board held public hearings on proposed Parts 21 and 46 covering helicopter

transport pilot ratings and helicopter operation rules respectively. The helicopter manufacturers' views on these two parts were transmitted to the Air Transport Association for joint presentation with the airlines' views.

Military Helicopter Design Requirements

The Air Force-Army-Navy MIL helicopter design requirements standardization program, sponsored by the DOD Office of Standardization at the recommendation and with the support of the ARC, has made progress in the past year. The military services have reached agreement on the following basic helicopter design specifications:

- Transmission Requirements—MIL-T-5955A
- Ground Test Requirements—MIL-T-8679
- Flying Qualities—MIL-H-8501
- Structural Requirements—MIL-S-8698

Additional Projects

- Rotor Drive Mechanism and Induction System Anti-Icing Requirements
- Flight Test Procedures for Helicopters
- RTCA Special Committee 63—Helicopter Air Navigation, Communication
- Flashing Rates of Position Lights for Helicopters
- Antenna Installation and Performance
- Recommended Location and Actuation of Controls for Helicopters

ARC PERSONAL AIRCRAFT COMMITTEE

Under the CAA's Regulation Part 410, manufacturers of aircraft of gross weight of 6,000 pounds or less may assume full responsibility for determination of compliance of their aircraft designs with the airworthiness requirements in CAR Part 3. Companies operating under this delegation-of-authority have been fully satisfied with the system from the standpoint of reduced government supervision, reduced costs and time delays.

Civil Air Regulation Part 3

The Committee has continued its review of the CAB's airworthiness rules to recommend deletion or changes wherever the rules do not add significantly to safety. These regulations now have become stabilized and satisfactory administration has been worked out with the CAA.

Additional Projects

- Cockpit Visibility for Non-Transport Aircraft
- Flashing Rates for Position Lights
- Approval of Oxygen Systems
- Minimum Fuel-Oil Ratio Requirements
- Landplane to Seaplane (Conversion) Maneuvering Load Factors

AIRCRAFT RESEARCH AND TESTING COMMITTEE (ARTC)

Activities of the Committee continued to be directed toward reducing duplication of effort, exchanging informa-

tion, and representing the airframe manufacturers on matters of research and testing as applied to structures, systems and installations, materials and testing. This program was assisted and advanced largely through ten regional meetings held at members' plants.

Cooperation with Military Services

At a meeting with the Air Force plans were completed for a joint program with the military services to discuss high-temperature materials, structures and equipment, and use of sandwich construction in primary structures. Plans were also completed for joint sponsorship with the Air Force of the Sixth Transparent Materials Conference involving the government, the aircraft industry and the materials-producer industries.

ARTC Publications

Two reports in the AIA series of technical publications were issued: ARTC-7, "Aerodynamic Flutter Derivatives of a Flexible Wing with Supersonic Edges," and ARTC-8, "Tentative Requirements for Transparent Plastic Enclosure Materials." Another report ARTC-9, "Instruction Manual for Materials and Processes, Punched Card Subject Indexing System," was released for printing. National Aircraft Standards, NAS 556, was issued in Specification for Spot and Seam Welding of Commercial Pure Titanium."

Development Research on Materials and Processes

The airframe industry's position was established and recommendations made on a number of structures, materials, processes and equipment installation subjects. Recommendations were made to NACA on flutter research, to SAE on specifications for new materials, to the military services on plastic, titanium and lubrication materials, to the services and other industries on forgings and castings, and to the Department of Defense on future needs for materials and processes.

Additional Projects

A large portion of Committee activity was conducted in specialists' subcommittee programs, some of them in conjunction with other AIA committees, such as the Inspection Committee and the Manufacturing Methods Committee. Included were such subjects as structural fatigue, rain-erosion coatings, inspection standards for plates and billets, high temperature hydraulic fluids and metal-to-metal adhesives. Recommendations were also made for establishment of a subcommittee on flight-test instrumentation.

ACCESSORY AND EQUIPMENT TECHNICAL COMMITTEE (AETC)

The problems of the equipment manufacturer have been complicated by shifting policies of the government regarding the role and responsibility of the equipment industry and its relationship to prime contractors.

From the standpoint of technological development, the extremes of environmental conditions of temperature, hu-

midity and vibration associated with high speed, high altitude and precision flight have not been adequately defined, yet the equipment manufacturer must provide reliable, light-weight, high performance designs on a competitive basis. Further complications stem from the frequent variation in the implementation of government policies on GFAE and CFE and the experimental-design demands of numerous prime contractors for similar but non-interchangeable components. The AETC is endeavoring through close collaboration with the military services and with the airframe, missile and engine manufacturers to establish recognition of the equipment industry's needs from the procurement as well as the technical standpoint so that solutions to these basic problems can be reached.

Presentation at AETC Meetings

Presentations at AETC meetings by key military and industry representatives on problems affecting the equipment industry included:

- Weapons System Concept
- Equipment Operational and Maintenance Problems
- Item Description per Federal Catalog Program
- Role of the Equipment Industry in Atomic Aircraft Development
- Service and Applications Engineering

The Powerplant Control Subcommittee

The Powerplant Control Subcommittee, representing all major control-system manufacturers, cooperated with the military services, NACA and manufacturers of engines, airframes and missiles in defining and initiating research on current problems in the areas of advanced performance, reliability and maintenance. Other active projects include simplification of emergency controls, requirements for separate power supply for controls, and control cooling.

Administrative Engineering Subcommittee

An Administrative Engineering Subcommittee was established to facilitate equipment manufacturers' cooperation with the military services and other segments of industry. Major effort was directed towards simplification and clarification of the engineering-change procedures, Federal Cataloging program, drawing and data-list requirements and replacement of van dykes by microfilm.

Auxiliary Power Subcommittee

With the continuing increase in the use of auxiliary turbine power sources for alternator drives, compressors, pumps, starters and other functional equipment in aircraft and missiles, the AETC established a special subcommittee in this field. Covering both "air breathing" and "non-air breathing" units, the subcommittee was organized to assist the military services in developing suitable MIL specifications so that procurement no longer need be made by deviation from the basic turbine engine (prime mover) specifications.

Other Product Subcommittees

Primarily concerned with review and comment on government standards and specifications, the following subcommittees complete the organization of the AETC:

Engine Pad and Drive Subcommittee
Pump Subcommittee
Electrical Equipment Subcommittee
Shock Strut Subcommittee
Instrument Subcommittee
Hydraulic & Pneumatic Subcommittee

ELECTRONIC EQUIPMENT COMMITTEE (EEC)

The activities of this Committee have kept pace with the tremendous increase in the use of electronic equipment. As an example, the Air Force has stated that about 60% of the total cost of a modern bomber and 75% of the cost of a missile were for electronic equipment. The activities of the EEC, therefore, have been directed toward standardization of components, increased simplicity and reliability, improvements in performance and reduction of weight.

Assistance to Parts Suppliers

The Committee has developed a more precise definition of the technical requirements for the component parts of electronic equipment. The utilization accelerated the development of parts capable of reliable performance in extremes of environment of aircraft and missile operation.

Parts-Approval Procedure

Because specifications have fallen behind development, over 80% of all electronic parts in complex military equipment is non-standard. A major Committee effort, therefore, has been initiated to simplify the military services' procedures for approving each application of a non-standard part and to expedite release of government specifications for advanced part designs.

Assistance to Military Services

Detailed engineering recommendations were submitted to the Department of Defense on specifications for electronic systems installation and test, for electronic equipment design, characteristics of aircraft electrical power, operations handbook, reference designations, symbols, selection and application of materials and processes, and requirements for numerous components and parts.

NAS Standards

Industrial requirements for electronic equipment components not covered by government specifications, were defined in NAS specifications for miniature capacitors, 150°C and 200°C wire, and miniature turret terminals. Final coordination of NAS standards for solenium rectifiers, precision variable resistors, radio noise filters, precision high temperature resistors, tube sockets and shields and miniature screws is in process.

Tube Requirements

Tube requirements for aircraft, missiles and supporting ground equipment have been defined to assist government agencies in tube research and development programs. In addition, recommendations have been prepared and submitted on inspection instructions for electron tubes.

Committee Liaison

Close liaison has been maintained with 25 government agencies and industry committees interested in electronics. An Electrical Connector Symposium was sponsored jointly with Radio-Electronic-Television Manufacturers Association.

ENGINEERING CONTRACT REQUIREMENTS COMMITTEE (ECRC)

This new activity, established by ATC, is concerned with engineering-change negotiation procedures and technical data requirements applicable to airframe manufacturers' military contracts. During this first year of operation, the Committee's procedures and scope of activities have been approved and the following subjects considered:

Drafting Panel

This Panel has been active in reviewing 20 military specifications and standards for compatibility with industry's drafting practices. Recommendations are currently being presented to the government.

Implementation of ANA Bulletin 390

Through Committee efforts the Navy's implementation of the engineering design-change bulletin has been revised and Record Class II changes deleted, thus preventing delay in release for production.

General Specification for Aircraft

At the Air Force's request, the Committee is currently preparing comments on a new revision of R-1800-E in the MIL series of specifications.

Design Data Requirements

Currently under study is the consolidated listing of all design-data requirements, which are largely responsible for the excessive costs and duplication of engineering data requested by the services.

Aircraft Service Instructions

At the request of BuAer, the Committee is reviewing the general requirements for preparation of aircraft service instructions and will forward comments for the Navy's consideration.

Manufacturers' Part-Drawing Numbering Systems

The Committee has advocated the use of manufacturers' part numbering or drawing systems in the military program of item identification as opposed to non-significant numbering.

ENGINE TECHNICAL COMMITTEE (ETC)

Primarily the ETC has been concerned with the military services' engineering procurement specifications for engines and with civil air regulations affecting the design, development and operation of engines. To carry out its programs effectively, the Committee has maintained close liaison with the military services and with the regulatory agencies of the Civil Aeronautics Authority.

During the year the Committee took action on the following subjects either directly or through one of its specialist subcommittees:

Turbo-Prop Engine Specifications

In a meeting with Air Force and BuAer, the ETC expressed its concern over certain provisions in the MIL turbo-prop specifications which will make it difficult for the engine manufacturers to predict firm costs or to schedule delivery dates with any degree of accuracy. Of special concern were the provisions on responsibility for engine-propeller compatibility, vendor substantiation of components, and location and control of facilities for engine qualification testing.

Government-Industry Relationship Re Type Certification

The recommendation of the Committee that type certification procedures and civil approvals remain vested in the Civil Aeronautics Administration was in accord with a similar resolution adopted by the aircraft companies.

Definitions for Turbine Engines

Definitions similar to those included in military specifications have been recommended and accepted by the Civil Aeronautics Board for civil use.

Performance Data for Turbo-Jet and Turbo-Prop Engines

This difficult subject has received considerable study and an industry proposal has been offered to the military services as a solution to their problem of uniform method of presentation of engine performance data.

Ram-Jet Engine Specifications

A new concept, incorporating all design requirements into a single ram-jet engine specification, was prepared and submitted to the Department of Defense for consideration by all services having an interest in guided-missile propulsion.

Reciprocating Engine Specifications

The Committee recommended that the services not consider further revisions to these specifications that would introduce new requirements into reciprocating engine production programs that are now stabilized.

Additional Projects

The following subjects are receiving major attention by

subcommittees or panels, with the work continuing into next year:

- High-speed Hydraulic Pump Drives
- Liquid Cooled Alternator Drives
- Drawings and Data Lists

GUIDED MISSILE COMMITTEE (GMC)

The GMC meetings have been held on or near military guided missile test ranges which permitted spending one day of each meeting with service personnel of the test ranges to discuss their operations and other items of mutual interest. Better understanding of the problems of the guided missile industry and of missile testing at service ranges has resulted from this practice.

Missile Reliability

The subject of reliability of guided missiles has received the continuing attention of the Committee. This has been aided by dissemination of many published reports, data and papers which are being put out by numerous organizations and individuals concerned with this general problem. Advice on this subject has been presented to the Committee by speakers from such organizations as the offices of Assistant Secretary of Defense for R&D and Applications Engineering, and the Sandia Corporation.

Test Range Operation

The Committee has made a study of guided missile test range operations and has prepared a suggested policy for presentation to the Defense Department. If accepted and put into effect by the Defense Department, this policy should result in more uniform and efficient operation at the missile test ranges.

Climatic Test Instrumentation

At the request of the Air Force, an industry survey of a proposed specification on instrumentation installation for climatic tests of pilotless aircraft was made.

Visit to United Kingdom

A combined military-industry guided missile team paid a reciprocal visit to the United Kingdom. At the request of the Air Force, the GMC nominated industry members.

MANUFACTURING METHODS COMMITTEE (MMC)

Membership of this Committee is drawn from 51 plants representing 40 AIA member companies. Included are companies engaged in design and production of airplanes, helicopters, missiles, engines, propellers and major systems equipment. MMC is concerned with fabricating techniques, machining operations, materials forming, assembly operations, production tooling, joining methods and equipment to perform these operations.

To better serve the wide diversity of interests resulting from its composite membership, the Committee revised its

directive to supplant regional operations by national operations with panel activity on specific end products.

The major concern of the Committee was the development of policy and guidance for its panels with mobilization readiness continuing to be of foremost significance. Detailed work was conducted through panels on tooling (26 members), machine tools (24 members) and conservation (24 members). During the year the Committee and its panels held 16 meetings, most of which were at members' plants, and made twenty-one industry surveys. Four National Aircraft Standards were revised, two new standards issued and 21 others initiated. More than 75 reports on non-proprietary manufacturing developments were exchanged during the year.

Machine Tool Panel

The Panel met six times during the year. Three of the meetings were with representatives of the machine tool building industry and the military services.

Major effort was devoted to the establishment of standard specifications for cutting machines including knee and bed mills, horizontal boring mills, skin and spar mills and contouring mills and forming machines including presses, and stretch formers. While this program was initiated to solve peace-time production problems, the standards developed will be valuable to the Department of Defense's 100-million dollar tool stockpiling program.

Other projects included electrical wiring standards for machine tools, availability of special machine tools and standardization of spar cap terminology.

Tooling Panel

The Panel met three times during the year to handle a work program consisting of 15 projects and related activities. In addition, two meetings were held with representatives of the drill-bit manufacturing industry.

The major portion of Panel work was conducted through subcommittees, including establishment of standards for drill-bits, publication of a 200-page report on machinery, assembly tools and parts configuration for honeycomb fabrication, initiation of development work on 15 standards for tooling components and standardization of tool holding fixtures for interchangeability purposes.

Other projects included revised NAS optical tooling components standards, new NAS standards on optical tooling and terminology for masters, materials formability, forming and straightening methods.

Conservation Panel

The Panel held four meetings on materials handling and utilization problems. These meetings were a valuable means for exchanging conservation ideas, methods and philosophies.

A conservation handbook, prepared by the Panel, was published in November 1953. Because of highly favorable reception by both Government and industry, plans were made to keep the Handbook up-to-date through periodic supplements.

NATIONAL AIRCRAFT STANDARDS COMMITTEE (NASC)

Originally limited to airplane manufacturers' problems, the activities of this Committee have been expanded to include the standardization problems of helicopter and guided missile manufacturers. Typical of Committee activities during the past year are the following:

National Symposium on Titanium Standard Parts

The development of titanium and its application to aircraft design has grown in significance and recently, under NASC sponsorship, attention was focused on titanium application to aircraft fasteners and standard parts. More than 350 engineers heard technical papers presented and participated in discussion of titanium production, fabrication, aircraft applications, and the government's plans and program.

Aircraft Bearings

NASC has stressed the importance of design data for spherical bearings and the need for realistic standards and specifications. A review of the problem with the services and bearing manufacturers has resulted in agreement on a program to achieve our objectives. Action on a similar problem with helicopter anti-friction bearings has been requested of the services.

Integral Fuel Tank Sealants

The problem has been to get material satisfactory for field use in all aircraft. Through service-industry meetings, specification requirements and testing procedures have been developed to assure qualified products.

High Strength Quick Release Fasteners

Through NASC, aircraft manufacturers' design requirements were standardized into a specification, which provided fastener manufacturers with the necessary information from which to develop the new fasteners needed for stressed panels of high speed aircraft and missiles.

Council for Military Aircraft Standards

This program combines NASC efforts with those of the military services (WADC, ARDC, AMC and Hq., USAF, together with ASO, NAMC and BuAer, as well as ASG) to develop specifications and standards. Currently there are about twenty active projects covering such items as standardization of electro-mechanical actuators, blind rivets, support clamps, fuel tank fittings, torque-tension relationship of fasteners, magnetic permeability of standard parts, and bolt and nut simplification.

Coordination of Government Specifications

During the past year approximately one hundred military specifications and standards were coordinated with industry, through NASC, and recommendations submitted to the services for consideration prior to specification release. Subject matter of these documents included materials, processes,

electrical items, fasteners and other hardware, fuel systems, hydraulics and servicing connections.

Defense Standardization Program

The Department of Defense has recently released its standards and specifications policy directive which requires conversion of all departmental specifications to the military or federal series by 1 July 1955, and the integration of standards under a planned group. The activities of NASC, particularly its program of coordinating government specifications and standards, as well as the CMAS program, will be affected by this action.

Aircraft Metals Stock List

For the past eight years NASC has maintained a current list of aircraft metals, both alloys and sizes, which are stocked by warehouses for aircraft use. The stock list was again reviewed by aircraft manufacturers together with suppliers and warehouse representatives at NASC meetings and the 1954 issue released. This program has stimulated interest in a similar activity among the engine manufacturers. It appears possible that some time in the future the two lists may be combined into a common stock list for both airframe and engine manufacturers.

National Aircraft Standards

More than sixty new standards and revisions were released last year in the National Aircraft Standards series. The new standards included involute serrations, toggle switches and quick-release fasteners.

NOISE CONTROL COMMITTEE (NCC)

Activities of the Committee centered on the technical aspects of mufflers and cells for ground testing and operation of jet aircraft and power-plants.

Exchange of Information

Periodic meetings were held to facilitate exchange of information. As mentioned in the last report, it has become apparent that the initial problem created by lack of information (in 1950 when the Committee was formed) has eased the situation but that the need to keep up-to-date on new problems and developments continues.

Noise Measurement and Instrumentation

A new subcommittee was established for the purpose of providing a standard reference-base for the members' measurement equipment through cross-calibration. The subcommittee will also keep the Committee informed on measurement and instrumentation problems.

PROPELLER TECHNICAL COMMITTEE (PTC)

From a policy standpoint the activity of the Propeller Technical Committee has continued to be associated closely with that of the ETC. This results from the similarity of problems and the trend to consider engine-propeller combinations as a powerplant package. Specialized fields of activity of PTC include:

Propeller Airworthiness Regulations

The Committee has participated in the CAB's Annual Review of the Civil Air Regulations and is cooperating with the CAA in revising and modernizing the manual pertaining to propeller airworthiness certification.

Availability of Turbo Prop Engines for Propeller Development Testing

Through past efforts of the Committee, there has been some relief in this field and it is expected that difficulties in this regard will ease.

Noise Reduction Program

The Committee has continued to study ways and means for reducing propeller noise and has coordinated its activity with the Noise Control Committee.

Additional Projects

Representatives of the propeller manufacturers have also participated in joint subcommittee action with the ETC to define industry needs on preferred material gauge sizes, drawings and data lists.

ROCKET TECHNICAL COMMITTEE (RTC)

Standardization requirements have been completed for basic series liquid propellant rocket engines and the military services have recognized work done by the Committee on the Handbook of Rocket Engine Design and Installation Criteria. Other activities completed or being reviewed for current and future action include:

Review of Environmental Requirements

With other segments of the aircraft industry the Committee is participating in a review of governmental requirements on environmental testing of components.

Preparation of Specifications Covering Rocket Engine Components

The RTC Components Panel is working on the standardization of components now having only specialized applications.

Handbook of Rocket Engine Design and Installation Criteria

A Handbook of Rocket Engine Design and Installation Criteria, initially prepared by the Committee, has been adapted to the needs of the military services. It is expected that it will soon be published as a MIL document.

Miscellaneous Specifications

The RTC has reviewed and commented on rocket specifications covering preliminary flight rating tests, fuel tanks, and preparation for storage.

PUBLIC RELATIONS SERVICE

Under programs approved by the Public Relations Advisory Committee, the efforts of the Public Relations Service were devoted to obtaining a better public understanding of air power and aircraft industry progress, and to illustrate and explain special problems of the aircraft industry and its vital role in our national security. Through its offices in Washington, Los Angeles and New York, Public Relations serves as the information center for Aircraft Industries Association, and as the channel through which the industry's policy, programs, accomplishments and problems are interpreted to the public. It maintains close liaison with the public information sections of the Government, including military services, with national organizations, and with press, radio and other media of public information.

Among the subjects which have been given special attention during the past year by this Service are: the industry's success in reducing the cost of air power to the American taxpayer, the need for a long-range military aircraft procurement program, the importance of active research and development programs, American leadership in the world air transportation market, the impact of the industry on the nation's economy, the essential role of the utility airplane as a business vehicle, the development of the helicopter, and the quality of American aeronautical products.

Public Relations Advisory Committee

During the year, two meetings of the National Public Relations Advisory Committee and two meetings of the regional committees were held to discuss policy, programs, and problems. Subcommittees on Aviation Education, Editorial Review, the Aircraft Industry Editors' Workshops, the National Aircraft Show, and Industry Economics were particularly active.

Publications

Eleven issues of PLANES, the Association's official publication, were distributed during fiscal year 1954. The acceptance of this publication by the press and other important segments of the public continued at an extremely high level. Staff continued to assist the American Legion's air power program by supplying information for the LEGION AIR REVIEW, a publication of the National Security Commission, and for a booklet entitled "Air Power in an Age of Peril". A new reference book of aviation statistics, facts and trends, AVIATION FACTS AND FIGURES, was printed and distributed during the year. The AIRCRAFT YEAR BOOK for 1953 was issued in January—the 35th edition of this standard book on American aviation. Several other booklets and background memoranda dealing with

specific elements and objectives of the industry's public relations program were distributed during the year.

AIA-NAEC Aviation Education Program

This program, designed to answer the need for classroom materials on aviation in the schools, is now in its second year and is progressing very satisfactorily. Some measure of acceptance of the teacher-prepared materials developed through this program is the fact that schools and educators have purchased more than 38,000 copies of the three booklets—HELICOPTERS, JETS and LOOK TO THE SKY offered for sale during the last school year. Two additional booklets are now being distributed along with a free bulletin of facts and information and a third booklet is in the hands of the printer. The booklets being distributed are:

A DAY IN THE LIFE OF A JET TEST PILOT: The story of the high quality and safety engineered into U. S. aircraft as reflected in the activities of the test pilot.

AIRCRAFT NUMBER 116: This booklet shows how an airplane is built and the skilled manufacturing team needed to accomplish its production.

Industrial Editors Program

Because more than 1,900,000 Americans are directly dependent on the aircraft manufacturing industry payroll, increased emphasis was directed toward providing them with up-to-date information on the problems and accomplishments of the industry in which they play such a prominent part.

The best source of information for these employees is their company publication, the direct channel of communication between employer and employee. During the past year a new program was begun to provide editors of company publications with industry-wide information. An Editors' Workshop was held which featured round table discussion of editorial techniques and ways and means of better telling the industry story to industry employees. The workshop was eminently successful and additional workshops are planned for the coming year.

Information Service

Requests for information from the press, Government agencies, the Congress, financial publications and a miscellany of organizations and individuals, plus dissemination of topical information, have kept all three offices at a high level of activity throughout the year. These offices have continued to increase their efforts to develop specially-prepared material for radio-television news commentators. A number

of appearances were made before important audiences and on radio by the President and Western Region Vice-President of AIA.

Cooperation with National Organizations

The Public Relations Service has continued to work with national organizations interested in aviation and air power. Especially noteworthy has been the work of the American Legion in its program for adequate air power. AIA has provided much information for this program and the President

and other AIA staff members have appeared to present the industry story to major Legion audiences.

Cooperation with Other Services

The Public Relations Service has worked closely with other services of AIA, providing counsel and assistance where needed and receiving valuable aid in return. The Association's legislative liaison executive and the Research and Statistical section of Industry Planning Service have been of especial aid to the public relations program.

TRAFFIC SERVICE

The Traffic Service is concerned with traffic and transportation matters, especially government regulations of freight rates and services. It endeavors to secure and maintain the lowest lawful freight charges on aircraft materials; compiles and distributes information on methods of billing freight to assure that the lowest lawful rate is applied; advises member companies on traffic matters and coordinates the effort of individual traffic departments of member companies whenever industry-wide action is required. Effective representations of the industry's position on traffic matters have saved both the industry and the government millions of dollars through reductions in freight rates and through forestallments of proposed rate increases. Details of the traffic service activities during the past year are as follows:

Liaison with the Air Materiel Command

An important development this year has been the consummation of a plan for close liaison with Headquarters Air Materiel Command at Wright-Patterson Air Force Base. The liaison thus established makes possible immediate benefits to the Air Force and to the Government. Prior to their publication transportation directives which in so many instances affect aircraft production, are discussed and reworked so that maximum economy and efficiency can be achieved.

Increased Rates on Engines

Throughout the past fifteen years the railroads have tried to increase freight rates on aircraft engines, but, through the Interstate Commerce Commission, these efforts have been defeated by showing that through the use of costly containers and other expensive protective devices these loadings have been made safe for transportation. Changes in personnel of the Commission brought changes in theories respecting these rates and finally increased rates were published to become effective January 15 of this year. Although the Department of Defense and the AIA prepared petitions for suspension, the Commission refused to suspend the increases. On that date the Traffic Service advised AMC that this increase would raise Government freight charges on these items by approximately 60% and recommended that all shipments of engines be diverted to motor carriers where a saving in freight charges could be made. So quickly was this accomplished that the railroads suffered substantial loss of tonnage. As a result the railroads quickly restored the old rates on approximately 80% of the tonnage moved and enabled the Air Force to save approximately 2½ million dollars annually. The saving was made possible by the prompt action of the AMC and its close liaison with AIA members.

Although the motor carriers several months ago proposed to increase their rates for aircraft engine shipments, final action has not been taken and it is felt that representations made by the Traffic Service may prevent them from taking

this step which is certain to result in a serious loss of revenue to their members.

Rates on Airplane Parts

The complaint instituted by the AIA against freight rates on airplane parts resulted in a 20% reduction of rates on such parts when shipped boxed or crated. This reduction, which became effective August 20, will apply to the movement of all airplane parts in carloads, boxed or crated, moving between points in the United States west of the Rocky Mountains. It will effect a substantial saving to the Government on spare parts moving from aircraft plants to Government installations, as well as between such installations.

Although efforts made at the same time to secure reduced rates on uncrated airplane parts moving between airplane plants failed, the high rates on such movements have permitted the motor carriers to quote the same or lower rates. With their superior service, there has been a substantial diversion of this traffic from the rails to highways since the complaint was filed.

Mixed Carload Rates

In the matter of mixing a variety of commodities in a single car at carload rates, the transcontinental railroads for several years have maintained substantially more restrictive rules than obtained east of the Rocky Mountains. Although interest in this adjustment was general, previous efforts to correct it, including a formal complaint before the Interstate Commerce Commission, resulted in failures. As no industry on the Pacific Coast uses so many different commodities in its processes as the aircraft industry, our members have been especially interested in a more liberal mixing rule; hence, when the Pacific Coast retailers filed a formal complaint, it was promptly supported by the AIA. The excellent favorable decision which was handed down January 7, 1954. After petitions by defendant carriers for reconsideration were denied, the railroads published the new rules effective August 2. A petition for suspension was filed by the freight forwarders on July 22. This was answered by the AIA on July 27 and the Commission declined to suspend.

It is impossible to estimate the savings in transportation charges which will be accomplished for our aircraft plants by these changes. Continuously increased savings will be realized as facilities for using these mixtures are expanded.

All-Commodity Rates between California and Washington Points

On April 29, 1953, the railroads published what are known as all-commodity rates between California points on the one hand and Oregon and Washington points on the other. These rates were of interest to West Coast members because they applied to articles supplied by aircraft and

other plants in Southern California, to the Boeing plants in Seattle.

Competing motor carriers petitioned the Commission to suspend the reductions but the latter declined to do so. The Commission, however, instituted an investigation to determine the reasonableness of these rates. In the course of this investigation AIA testified for the aircraft industry in full support of the railroads in publishing their rates which the Commission found not to be unlawful and authorized their continuance. These rates permit of a heavy movement of aircraft parts at substantially lower rates than those the motor carriers formerly applied on this traffic.

Air Freight Forwarder Investigation

In January of this year, the Civil Aeronautics Board began hearings in Air Freight Forwarder Investigation, Docket No. 5947 et al. Because air freight rates generally are based on a minimum weight of 100 pounds, organizations have found it profitable to consolidate small shipments and tender them as a single shipment to the air carrier. For example, where the air freight rate is \$16 per 100 pounds, minimum 100 pounds, ten 10-pound shipments tendered separately would cost \$160 in air freight charges. If all were tendered as a single shipment, the cost would be but \$16.

The CAB, under Section 1(2) of the Civil Aeronautics Act of 1938, has found those organizations engaged in the consolidating business (designated as air freight forwarder) are subject to regulation as indirect air carriers. By a very liberal interpretation, the Board has found that voluntary nonprofit shipper associations organized to consolidate shipments exclusively for their members, also become common

carriers subject to Board regulation as they develop a fair volume of business.

As there is no evidence of abuse, AIA members see no need to regulate air freight forwarders, especially in the field of non profit shipper associations. On the other hand the commercial forwarders desire regulation in the belief that it will lessen competition, and will improve their competitive position through possession of a "vested right" to such business.

Although CAB counsel in presentations to the examiner has opposed any idea of vested rights, he has advanced a theory of regulation for non-profit shippers associations which is unnecessary and burdensome, and is an injection of regulation into private business in a manner opposed to the public good. Testimony to this effect has been placed in the record and a brief in support of this position has been filed with the Board. The proposed report of the examiner has not yet been submitted.

Limitation of Motor Carrier Liability

The motor carriers, through their Classification Committee, have determined to seek from the Interstate Commerce Commission authority to limit their liability for loss or damage to articles transported, to \$3.00 per pound unless shippers are willing to pay additional charges. Representations in opposition to this were made by the Traffic Service along with many other shippers.

In addition to these matters, the Traffic Service has held five regular meetings of its Eastern and Western Regional Traffic Committees. Technical advice is constantly being supplied, and 133 bulletins have been issued.

EXPORT SERVICE

The Export Committee consists of export officials representing 33 AIA member companies. However, Export Service memoranda are sent on request to 150 individuals in 65 AIA companies.

The Export Committee holds four meetings each year. Following the executive sessions, officials representing aviation interests in foreign embassies and purchasing missions, and United States government officials dealing with foreign aviation activities, are invited into conferences. Such meetings have proven useful.

Foreign Military and Economic Aid

Through the cooperation of Defense Department officials, including Air Force, Navy, and Army, the Export Committee has kept in close touch with the aviation aspects of the military aid program. In the economic aid field this has been accomplished largely through cooperation with officers of the Foreign Operations Administration, who have taken over the former Technical Assistance Administration program.

During the year there has been substantial improvement in the administration of the NATO aid program and there has been a slight but still unsatisfactory degree of relaxation in restrictions on the sale of advanced types of military aircraft to friendly countries.

No additional technical bi-lateral agreements (only those with Great Britain and Italy remain in effect) have been concluded during the year, but better protection abroad has been planned for the proprietary rights of American manufacturers.

Maintenance for NATO

Although there has been continuous study of NATO spare parts requirements, needed information on the subject is not available. Export representatives of AIA companies are working on the problem in collaboration with the Air Materiel Command and a Paris Office has been established to assist in the conduct of the study.

Off-Shore Procurement

The use of American dollars for the purchase of European-made equipment for NATO military purposes has been given considerable study by the Export Committee, which has been endeavoring to obtain and develop factual information on this subject. While the support of the NATO military program is almost universally endorsed, this particular use of American funds has been subject to question.

A report to the Senate Appropriations Committee, made by its staff investigator, indicated that the use of such funds in England might well operate to subsidize British manufacturers in their direct competition with American manufacturers in the civil aircraft field.

Several U. S. manufacturers have established European and Japanese licenses to manufacture aircraft in support of both military and civil interests abroad and others are being negotiated. The United States government has encouraged such licensing as an effective aid to our allies.

Export Finance

Amendments to the Export-Import Bank Act during 1954 have extended the authority of the Bank to such a degree that there are indications that it now may be able to provide all the assistance industry might require at present. As yet, however, export officials of AIA member companies have not been able to get as much assistance as they consider appropriate.

Although the World Bank has assisted in the financing of several large aircraft sales, such assistance is equally available to suppliers in other friendly countries.

Disposal of Military Surplus

The Export Committee is working closely with a Defense Department committee established to regulate the disposal of military surplus in such a way that it will not seriously disturb the sale of comparable new products, and to insure that such material will not fall into the hands of dealers who might misrepresent what they sell. Because of the complaints of foreign purchasers of such misrepresented equipment, such sales have caused embarrassment both to the U. S. embassies and to the foreign offices of the Civil Aeronautics Administration.

Government Assistance in Export Trade Promotion

Although there has been some improvement in measures of assistance rendered the industry in this important field, apparently it is the position of the Departments of State and Commerce that funds available to them are not sufficient to provide additional help.

In 1953 the export of U. S. aircraft and parts reached a money value of \$800 million. It is felt that the scope of this operation has been such as to merit substantial government support and promotion with attending benefits to both government and industry.

Export Statistics

Statistics covering the export of aircraft, components and parts are analyzed and distributed on a monthly and annual basis. A compilation of the utility aircraft exports is regularly distributed by the Export Service to the companies participating, and a summary made available to the press.

Japan and Germany

Aviation delegations from these countries have visited the United States and have been assisted by the Export Committee in their visits to aircraft plants and facilities. Al-

though sales and licensing arrangements have progressed further in Japan as a result of her longer autonomous position, the German delegations forecast a substantial increase in German aviation activities.

Reciprocal Trade Agreements

Following the report of the Randall Commission, legislation was enacted which continued the Reciprocal Trade Agreements Act until June, 1955. While the Randall Com-

mission report was endorsed by a large percent of the AIA members, a few were strongly opposed. The Administration has endorsed the Commission's recommendations.

Canadian Reciprocity

Cooperation between the AIA Export Committee and the Air Industries and Transport Association of Canada, is increasing through interchange of information and participation in the other's meetings.

UTILITY AIRPLANE COUNCIL

The use of aircraft for business, industry and agriculture has become a substantial part of the civil aviation economy. The Utility Airplane Council is composed of AIA member companies who are active in the manufacture of utility and executive aircraft and their engines for these utilitarian purposes. As in the past, Council members continue to deliver the largest percentage of such aircraft and engines, accounting for over 90 per cent of today's active general civil aviation fleet.

To advance the specialized needs of its members the Council draws freely on the various AIA services. It is active in many inter-associational activities. It maintains close contact with interested government agencies. It concerns itself with the common problems of this segment of the aircraft industry. It serves as a source of authoritative information on the role of general aviation in the nation's transport economy, mobilization reserve and civil defense.

Mobilization Planning with the Government

The Utility Airplane Council believes that current and long-range defense mobilization planning must embrace general civil aviation. In this regard the availability of materials in a controlled economy is a matter which is of primary concern. As demonstrated by the Korean War, another major emergency would create an immediate demand for utility aircraft of all types. This demand would be for essential civil uses, and for various military missions where such aircraft types have demonstrated great worth. Increased utilization would be required of the existing fleet, as well as an increase in the requirement for maintenance and replacement parts, and a higher level of new manufacture.

The Defense Materials System (DMS) replaced the Controlled Materials Program (CMP) when controls were removed in July 1953. Under CMP, the requirements of general aviation were considered, and materials were allocated on a basis of demonstrated need and essentiality of use. DMS continues to be available for civil transport aircraft manufacture (carrier aviation), but does not now include general civil aviation (non-carrier). Although the availability of materials is not now a problem, Utility Airplane Council members feel that DMS assistance should continue to be available to the non-carrier industry, as were CMP allocations.

Military Production

The utility aircraft and engine industry devotes major portions of its facilities to the production of military aircraft engines and components, both as prime and sub-contractors. The industry is currently delivering both liaison and light trainer types to the military services and it has several new types under development. Recently the first light jet trainer aircraft was successfully test flown, and

service test quantities will soon be delivered to the Department of Defense.

Market and Production

The market for light aircraft continues to be good. The industry delivered 2,302 aircraft in 1951, 3,058 in 1952, and 3,788 in 1953. Totals for calendar 1954 are expected to be approximately 3,000. Though unit deliveries will be less than in 1953, the dollar volume will be substantially greater—an estimated \$40,000,000 in 1954 compared to \$34,458,000 in 1953 (manufacturers' net billing price). The increase in dollar volume does not reflect greatly increased prices, but results from the fact that larger and heavier aircraft, notably the new twin-engine aircraft first offered in quantity this year, have been much in demand.

The light airplane has become an accepted tool of business, industry and agriculture. Many others find utility aircraft a useful means of transportation, yet millions of people have still to experience their first flight. In this light, the outlook for general aviation suggests that the industry will have steady growth.

Aircraft Utilization

The Civil Aeronautics Administration which periodically surveys the field of aircraft utilization, had not fully analyzed its 1953 tabulations of use at the time this report was written. However, the CAA advises that from all indications an increase will be shown in general aviation activity in 1953, and that total hours flown will approximate 8,600,000—an increase of about 400,000 hours over 1952. The CAA anticipates that this increase will be found principally in business flying, which in 1952 officially recorded 3,124,000 hours.

As of January 1, 1954, the Civil Aeronautics Administration records indicate that there were 55,505 active civil aircraft, of which 1,590 were in the nation's airline fleet, with the balance composing the fleet of general aviation. Of the total fleet engaged in various segments of general aviation, the CAA estimates that those engaged in business number around 23,000.

The National Business Aircraft Association, a "user" group with whom the UAC maintains relationship, estimates that the cost of maintaining the business aircraft fleet, including new equipment, fuel used, etc., now amounts to more than \$420 million annually, and that these expenditures will climb to one billion dollars during the next ten years. The NBAA gives credit to the aviation industry for the assistance it has given to businessmen.

From preliminary statistics, it appears that a continuing growth of general aviation is in prospect, which will increase the significance of the following three basic facts:

- 1) The fleet of general aviation is many times larger than the airline fleet;

- 2) General aviation continues to fly many more hours than do the airlines—8,186,000 as compared to 2,132,137 by airlines in 1952, the last year for which there are official government statistics;
- 3) The active fleet is utilized 80 per cent or more for business, industry, and agriculture—considered “essential” in official government classification—and 20 per cent or less for pleasure and sport.

Advisory Role

The Council works closely with other aviation organizations and with many agencies of the Government in connection with civil and military use of light aircraft. The Council

Manager is a member of the Civil Aviation Advisory Committee to the Joint USAF-CAA Air Defense Planning Board, and is a member of the Defense Air Transportation Administration Manpower Working Group.

During the past year the Council supplied observations on the aviation policy study conducted by the Air Coordinating Committee. Increased attention is being devoted to the airport problem and to the development of an airport program which will satisfy the needs of general aviation. Another field of great interest to the Council is aviation education, particularly in incorporation of air age education into school curricula. The increasing interest of prominent educational leaders in this field is highly encouraging.

HELICOPTER COUNCIL

The Helicopter Council made substantial progress in obtaining increased acceptance of the modern helicopter as a valuable vehicle for both military and civil purposes. The Council continued its close liaison with federal, state and local aviation officials, as well as the airlines and other interested aviation agencies to assist in the promulgation of regulations appropriate to the flight characteristics of the helicopter.

As a major part of its program the Council has stepped up the tempo of its campaign to secure legal recognition of the helicopter's performance characteristics. Many local and state laws, written around fixed-wing aircraft operation, would deny helicopter usefulness to cities and towns, unless changed to embrace rotary wing aircraft.

Liaison with National Organizations

The important role of state aviation authorities in determining the future use of the helicopter for civil purposes has been recognized through the organization of liaison committees representing the National Association of State Aviation Officials and the Council. In this connection, Council's legal advisors have prepared a thorough analysis of pertinent laws of every state. In most cases, according to this analysis, the helicopter is handicapped by being classed in the "general aircraft" category, without recognition of its unique operational capabilities. The Council, working with the NASAO, will seek a remedy for this unsatisfactory situation.

Special conference groups representing the Air Transport Association and the Council continue meetings to reconcile various differences on the establishment of heliport requirements as they relate to multi-engine helicopter operations. Council conferences on this subject with other interested groups have served to awaken and keep in the foreground the importance of heliport planning. Typical of actions underway as a result of such conferences are current studies being made not only by ATA, but also by the International Air Transport Association, the Port of New York Authority and the Civil Aeronautics Administration.

Arrangements are under way for the establishment of a

working group representing the Council and the Aeronautical Training Society to increase facilities for helicopter flight training.

Education

Staff continued to prepare and distribute news material on helicopters and frequently was called upon to assist writers in the preparation of specific news features. Publications of all categories—general, business, specialized—evidenced great interest in developments in the helicopter field. Radio and television outlets also frequently presented matter dealing with helicopter achievements.

Of particular significance during the past year was the increase in the number of inquiries from important groups such as state and municipal planning agencies, banks, trusts, airport operators and others concerned with requirements for heliport construction and helicopter operation. Special papers and booklets were assembled by Council staff to supply the heavy demand for information on the helicopter from press, educational institutions and interested individuals. More than 10,000 of these documents were mailed during the past year.

Under the leadership of Council Chairman Charles H. Kaman and Vice-Chairman Stanley Hiller, Jr., members and staff have carried on an active program of participation in meetings and conventions where the helicopter was a subject of interest and discussion. Such meetings included those of the American Road Builders Association, National Security Commission of the American Legion, American Association of Airport Executives, Airport Operators Council, Annual Airport Development and Operation Conference of the New York State Department of Aviation, Helicopter Symposium of the Institute of the Aeronautical Sciences, Indiana Aviation Trades Association as well as the Annual Forum of the American Helicopter Society. Numerous other meetings of Governmental agencies, military and civil, included Council representation.

Four regular meetings of the Council were held during the past fiscal year. In addition, visits of staff to member plants and visits of members to Council headquarters have served to expedite the handling of the program.

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MANUFACTURING MEMBERS

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*Aero Supply Manufacturing Company, Inc.
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