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**CURTISS-WRIGHT**

C O R P O R A T I O N

**ANNUAL REPORT**

for the year ending December 31st

**1955**

*D-2222*  
*10/24/55*

1955

A Year of  
Fondification and Growth



# Curtiss-Wright Corporation

## STOCKHOLDERS

## BOARD OF DIRECTORS

R. T. HURLEY  
CHAIRMAN AND PRESIDENT

## CORPORATE OFFICERS

ROY T. HURLEY.....Chairman and President  
GEORGE R. HILL.....Vice President for Finance  
JAMES G. BYRON.....Vice President  
THOMAS C. COYNE.....Vice President  
WILTON G. LUNDQUIST.....Vice President  
STANLEY S. KURTZINA, JR.....Vice President  
WILLIAM T. LAKE.....Controller  
M. E. JORDAN, JR.....Secretary  
GORDON J. STAUB.....Treasurer

### PROPELLER DIVISION

R. W. DUDLEY.....Vice President—General Manager

### EXPORT DIVISION

SAM D. IRWIN.....Vice President—General Manager

### WRIGHT AERONAUTICAL DIVISION

JOSEPH V. MICCIO.....Vice President—General Manager  
NICHOLAS DYKSTRA.....Vice President—Controller  
FRANK H. WAREING, JR.....Vice President—Sales  
W. EDWIN HOUPT.....Vice President—Sales  
FRANK W. MINICK.....Vice President—Manufacturing  
JACK O. CHARSHAPIAN.....Vice President—Engineering

## CURTISS-WRIGHT CORPORATION STAFF

VICE PRESIDENT  
FOR FINANCE  
G. R. HILL

VICE PRESIDENT  
FOR ENGINEERING  
W. G. LUNDQUIST

VICE PRESIDENT  
PLANNING AND  
PROCUREMENT  
T. C. COYNE

VICE PRESIDENT  
PERSONNEL  
J. G. BYRON

VICE PRESIDENT  
MANUFACTURING  
ENGINEERING  
S. S. KURTZINA, JR.

DIRECTOR OF  
PUBLIC  
RELATIONS  
R. S. GAIL

CONTROLLER  
W. T. LAKE

DIRECTOR OF  
ECONOMIC  
PLANNING  
A. JOSLIN

DIRECTOR OF  
BUDGETS  
J. F. DOHERTY

DIRECTOR OF  
COMMERCIAL  
SALES  
M. J. DAVIDSON

DIRECTOR OF  
MILITARY SALES  
R. J. MARONI

PATENT  
ATTORNEY  
K. M. LAKE

## OPERATIONS

## COMMITTEES

### ADMINISTRATION COMMITTEE

R. T. HURLEY, Chairman

H. S. BARNFORD  
J. G. BYRON  
K. CAMPBELL  
P. W. CARR  
E. A. CARTER  
E. W. CONLON  
T. C. COYNE  
N. J. DAVIDSON  
R. W. DUDLEY

A. V. FINN  
R. S. GAIL  
C. W. GIBB  
V. T. GORGUZE  
K. F. HAGER  
P. E. HARRELL  
G. R. HILL  
S. D. IRWIN  
A. JOSLIN  
J. P. DOHERTY (Secretary)

S. S. KURTZINA, JR.  
W. T. LAKE  
W. G. LUNDQUIST  
K. M. LAKE  
F. LE MAN  
R. J. MARONI  
A. G. MASSEY  
J. V. MICCIO  
J. R. PASCUZZO

OPERATING  
FINANCE  
G. R. HILL  
Chairman  
A. JOSLIN  
W. T. LAKE  
J. P. DOHERTY  
(Secretary)

MAKE  
OR BUY  
T. C. COYNE  
Chairman  
P. W. CARR  
B. W. DUDLEY  
V. T. GORGUZE  
K. F. HAGER  
P. E. HARRELL  
S. S. KURTZINA, JR.  
F. LE MAN  
A. G. MASSEY  
J. V. MICCIO  
J. R. PASCUZZO

NEW  
PRODUCTS  
P. W. CARR  
Chairman  
H. S. BARNFORD  
E. A. CARTER  
N. J. DAVIDSON  
B. W. DUDLEY  
V. T. GORGUZE  
K. F. HAGER  
P. E. HARRELL  
S. D. IRWIN  
F. LE MAN  
R. J. MARONI  
A. G. MASSEY  
J. V. MICCIO  
J. R. PASCUZZO

CALDWELL  
WRIGHT  
DIVISION

F. LE MAN  
General Manager

PROPELLER  
RESEARCH  
CORPORATION

A. V. FINN  
President

ELECTRONICS  
DIVISION

J. R. PASCUZZO  
General Manager

CURTISS-WRIGHT  
EUROPA M. V.

C. W. GIBB  
General Manager

TURBOMOTOR  
DIVISION

E. W. CONLON  
General Manager

EXPORT  
DIVISION

S. D. IRWIN  
General Manager

INDUSTRIAL  
AND SCIENTIFIC  
PRODUCTS  
DIVISION

H. S. BARNFORD  
General Manager

MARGUETTE  
METAL  
PRODUCTS  
DIVISION

P. E. HARRELL  
General Manager  
MASSEY  
MACHINE DIV.  
A. G. MASSEY  
General Manager

METALS  
PROCESSING  
DIVISION

V. T. GORGUZE  
General Manager

PLASTICS  
DIVISION

K. F. HAGER  
General Manager

CURTISS-WRIGHT  
OF CANADA, LTD.

E. A. CARTER  
General Manager

PROPELLER  
DIVISION

R. W. DUDLEY  
General Manager

RESEARCH  
DIVISION

K. CAMPBELL  
General Manager

SPECIALTIES  
DIVISION

P. W. CARR  
General Manager

WRIGHT  
AERONAUTIC  
DIVISION

J. V. MICCIO  
General Manager



*Directors*

EDWIN J. BEINECKE  
T. ROLAND BERNER  
JAMES G. BYRON  
LEVIN H. CAMPBELL, JR.  
J. CHEEVER COWDIN  
LOU R. CRANDALL  
CHARLES A. DANA  
GEORGE R. HILL  
ROY T. HURLEY  
ROBERT W. LEA  
STUART R. REED  
LLOYD H. SMITH  
HENRY S. STURGIS

**CURTISS-WRIGHT**

CORPORATION

*and Subsidiaries*



*Annual Report*

FOR THE YEAR ENDED DECEMBER 31, 1955

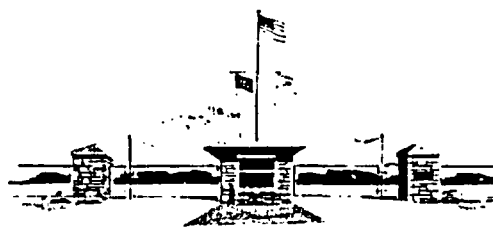
# *Financial Summary*

	<b>1955</b>	<b>1954</b>
Sales . . . . .	\$ 508,703,445	\$ 475,084,435
Net Profit before Federal Taxes on Income . . . . .	\$ 72,581,045	\$ 39,377,279
Net Profit after Federal Taxes on Income . . . . .	\$ 35,081,045	\$ 19,377,279
Provision for Federal Taxes on Income . . . . .	\$ 37,500,000	\$ 20,000,000
Engineering, Research and Development Expenses . . . . .	\$ 55,723,997	\$ 50,919,762
Depreciation and Amortization . . . . .	\$ 5,601,740*	\$ 5,454,394
Total Current Assets . . . . .	\$ 194,381,506	\$ 165,821,049
Total Current Liabilities . . . . .	\$ 69,484,804	\$ 59,017,305
Ratio of Current Assets to Current Liabilities . . . . .	2.80 to 1	2.81 to 1
Capital and Surplus . . . . .	\$ 157,543,376	\$ 136,412,029
Dividends Paid . . . . .	\$ 14,135,776	\$ 8,891,024
Unfilled Orders . . . . .	\$ 601,000,000**	\$ 662,000,000
Number of Employees . . . . .	27,900	25,107
Number of Stockholders . . . . .	76,899	75,588

\*Before reduction of prior year's adjustments. See note to Consolidated Statements of Income.

\*\*Total unfilled orders, plus scheduled production under advance contracts, currently aggregate in excess of \$714,000,000.





*Gateway to Quehanna*

March 7, 1956

*To Curtiss-Wright Stockholders:*

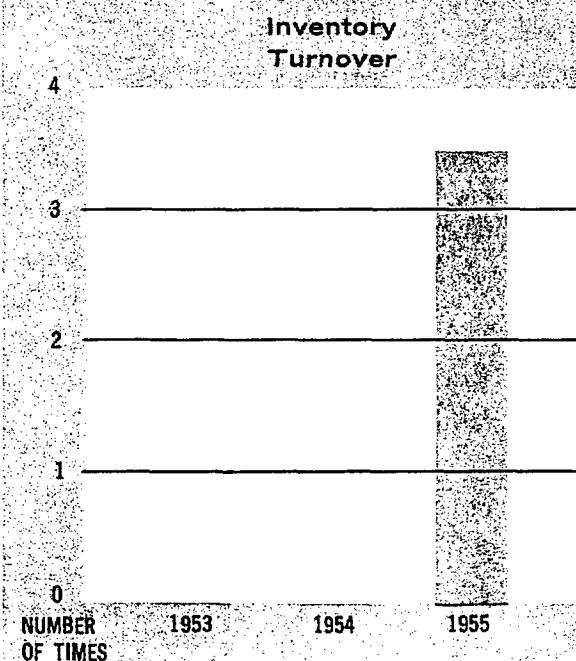
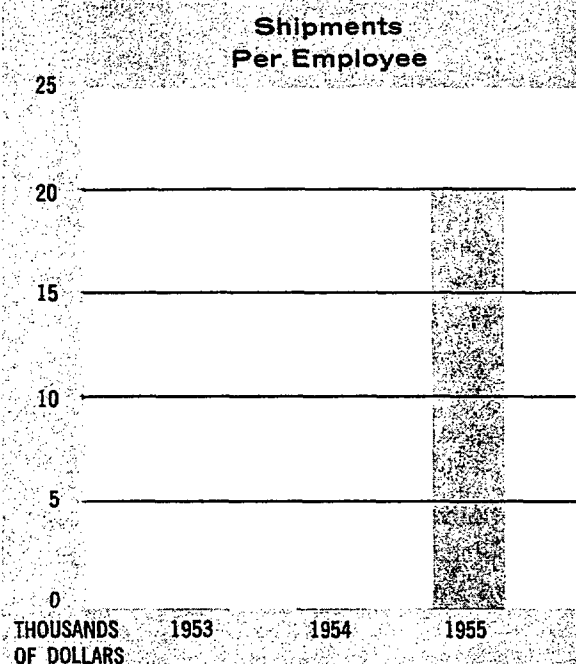
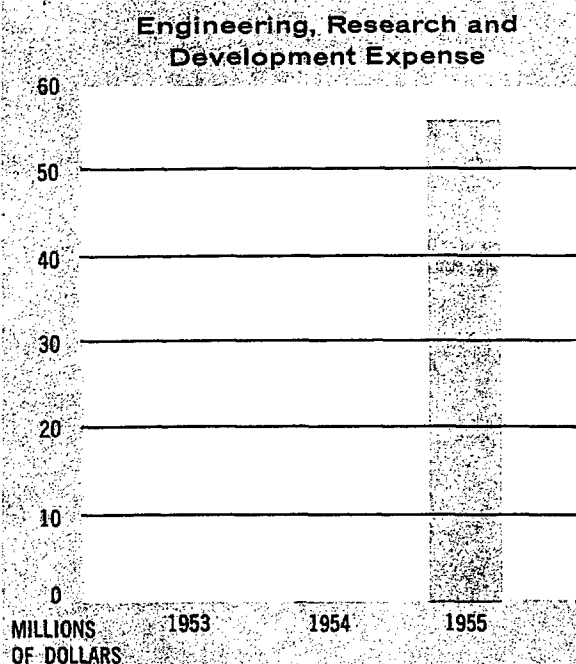
The Annual Report of Curtiss-Wright Corporation and the consolidated financial statements of the Corporation for the year 1955, in comparison with those for the year 1954, are submitted together with the report of Lybrand, Ross Bros. & Montgomery, Certified Public Accountants.

The year 1955 was one of the most successful in your Company's history. Sales for the year amounted to \$508,703,445, compared with \$475,084,435 for 1954. Income before taxes in 1955 was \$72,581,045, compared with \$39,377,279 in 1954. The provision for federal taxes on income was \$37,500,000 in 1955, compared with \$20,000,000 in 1954. Net income for 1955 amounted to \$35,081,045 compared with \$19,377,279 in 1954. Economic planning, budgeting and forecasting are playing an increasingly important part in our operations.

Total unfilled orders, plus scheduled production under advance contracts, currently amount to more than \$714,000,000. The backlog of unfilled orders was \$601,000,000 on December 31, 1955, compared with \$662,000,000 on December 31, 1954, and additional business is presently under negotiation.

During 1955, cash dividends of \$2 per share paid on the Class A stock and \$1.75 per share paid on the Common stock aggregated \$14,135,776. Of the net income of \$35,081,045, therefore, there remained a balance of \$20,945,269 which has been retained in the business to provide for your Company's continued growth.

The Board of Directors, at a meeting held on February 24, 1956, declared dividends for the year 1956 of \$1,907,438 on 953,719 shares of Class A stock and the first quarterly dividend for 1956 of \$3,873,164 on 7,042,116 full shares of Common stock presently outstanding.



The dividend on Class A stock is for the full year of 1956. Further dividend payments on Common stock will be considered and passed upon by the Board of Directors from time to time during 1956.

In 1954 your Company ranked 58th in all of American industry. The year 1955 was a year of further growth and fortification. It marked the completion of a program formulated in 1949-1950 which has brought total shipments from an annual rate of \$135,662,863 in 1950 to \$508,703,445 in 1955, and has increased efficiency and profits, reduced costs, broadened and diversified product lines through development and acquisitions, increased the number of divisions from 5 to 16, established Curtiss-Wright in new fields and expanded and improved production, engineering and research facilities.

The strength generated by this program has provided an organization which your Management confidently believes will further improve the performance of your Company as the potentials of its resources and new business capabilities are progressively realized. One of our objectives is to increase commercial sales of our products to the point where 50% or more of our income is derived from this source.

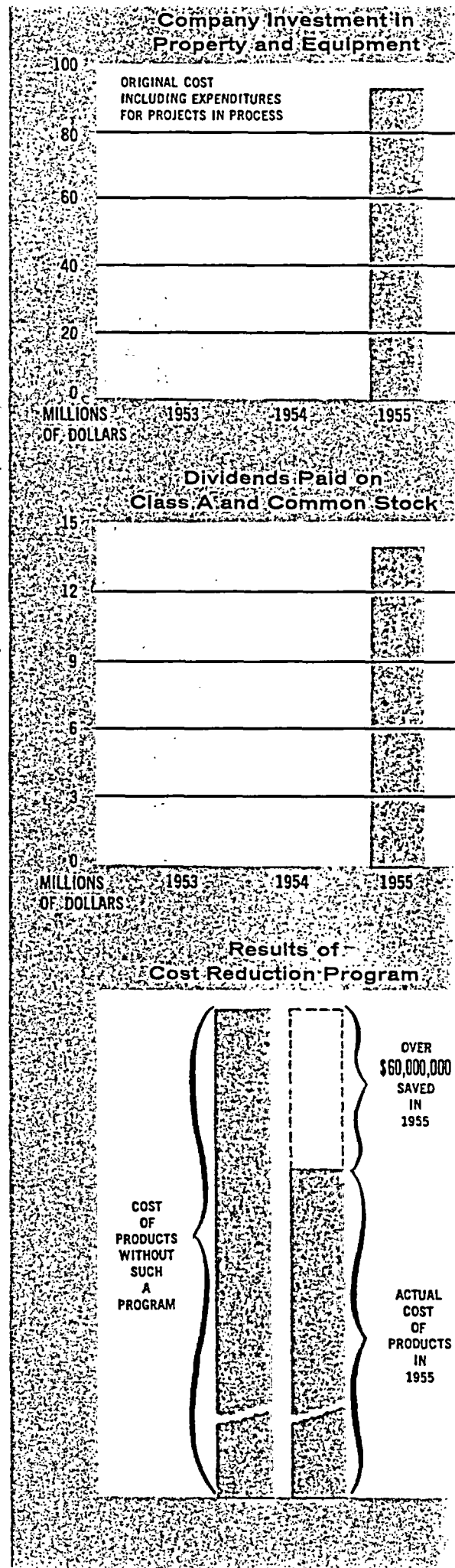
One of the greatest assets of the Curtiss-Wright Corporation today is its organization—the reservoir of talent and skill which has been created by promotions from within the company, the employment of new executive personnel and educational and development programs undertaken to strengthen every level of management. Through the management development program we have been able to evaluate more accurately the abilities of supervisory, administrative and professional personnel, and to make adjustments in responsibilities and duties to take full advantage more rapidly of the interests and aptitudes of the individual. This program has also proven valuable in selecting new management personnel and integrating them within the organization.

On the inside of the front cover of this report is shown the top-level management group comprising the Directors and

Officers of your Company, the members of the Curtiss-Wright Executive Staff and the General Managers of the divisions and subsidiaries. This group, which has been forged into a closely-coordinated team, is supported by more than 3,000 supervisors, administrators and other executives capable of meeting the challenges of the future with the resourcefulness and confidence required to take full advantage of the increased opportunities which broadened activities have opened up to your Company. Your Management recognizes that the stockholders have played an important part in the program to provide organizational stability. Your endorsement of such plans as those for incentive compensation, retirement and stock options has made it possible to retain competent personnel and attract new personnel needed to implement our expansions. Incentive compensation awards were made to 794 individuals for 1955 as compared with 456 for 1954.

It is significant that approximately 40% of our earnings in 1955 came from non-military commercial sales and that our overall cost reduction program resulted in savings of over \$100,000,000 to the U. S. Government in contracts negotiated. Approximately \$60,000,000 of these savings accrued to the U. S. Government in deliveries in 1955. Profits from accelerated commercial activities, accompanied by further efficiency of production and operation, keyed to our programs for expansion of engineering, research and development organizations and facilities, are increasing our capacity to perfect and produce the advanced aircraft engines and other equipment needed by our armed forces to meet the future requirements of National Defense.

For example, in 1955 your Company was able to appropriate approximately \$20,000,000 out of earnings and reserves to establish an advanced research and development center at Quehanna, Pennsylvania. The facilities of Quehanna will further stimulate the development of new products and production methods for your Company's operating divisions in the fields of aircraft products, nuclear energy, metallurgy, electronics, ultrasonics, chemicals and plastics.





Our engineering, research and development program in 1955 was the largest in your Company's history. In addition to turbine engine development being carried out by the Wright Aeronautical and Research Divisions, your Company, in December, 1955, acquired Propulsion Research Corporation of Santa Monica, California. This established organization devoted to aircraft engine and component research, development and testing is now being operated as a wholly-owned subsidiary of Curtiss-Wright. Your Company also established the Turbomotor Division which will develop turbine engines in the lower power categories for aircraft, helicopters, missiles, drones and other uses.

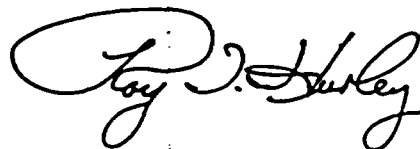
New orders received during 1955 brought to a total of 39 the domestic and international airlines which have selected the Turbo Compound engine to power Lockheed Super Constellation and Douglas DC-7 transports. These airlines comprise most of the major carriers throughout the world, and orders for this engine extend through 1958.

To date, the Turbo Compound, which powers approximately 49,000,000 seat miles daily, has flown over 17,000,000,000 seat miles with a perfect safety record. Future schedules provide for over 100,000,000 seat miles to be flown daily behind this engine on world air routes.

The Curtiss-Wright J-65 jet engine continued in full production during 1955 at announced ratings of 7220 to 7800 lbs. of thrust for the U. S. Air Force, the U. S. Navy and the NATO nations. Advanced versions of this single-spool engine, and two-spool jet power plants of higher thrust, are under development together with new engines of a classified nature.

I would like to express my appreciation to all of the employees of the Curtiss-Wright Corporation for the performance which their efforts made possible in 1955.

*By order of the Board of Directors*



CHAIRMAN AND PRESIDENT



# 1955 Operations in Review

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## METALS PROCESSING DIVISION

Buffalo, New York

During the year, this Division placed in production the world's largest horizontal steel extrusion press—a 12,000 ton giant developed under an extensive 4-year program. This press is capable of extruding steels, titanium, and non-ferrous alloys, in a variety of shapes, lengths, and diameters of high quality at lower cost for all industry, including cylinder barrels for aircraft engines, basic extrusions for one-piece, seamless Curtiss-Wright Electric and Turboelectric propeller blades and high-tensile pipe and pipe casements.

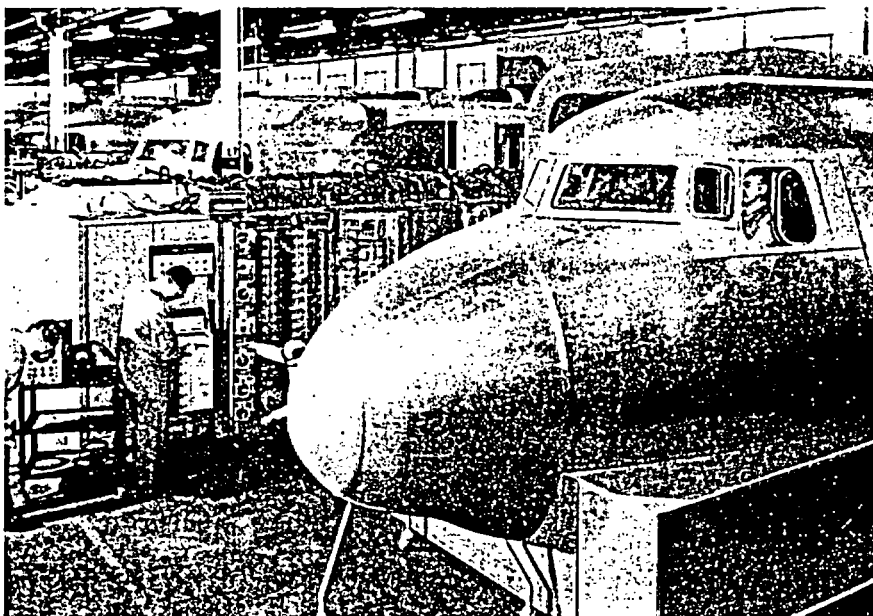
Together with established equipment for casting, forging, precision machining and metallurgical research, the new extrusion press provides your Company, through the Metals Processing Division, with a modern, integrated metals processing facility.

## ELECTRONICS DIVISION

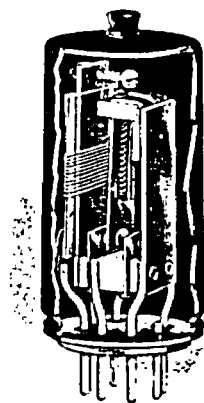
Carlstadt, New Jersey

In 1955, the Electronics Division established itself as a producer of nuclear measurement systems for industry, expanded its product line to include thermal time delay relays, and increased its sales of flight Simulators, Duplicators and Radio Aids units for aircraft pilot and crew training and coordination.

One of the greatest single factors in improving safety, and at the same time saving thousands of man hours and literally millions of dollars in the perfection of flight crew coordination, is the increasing use of Electronic Flight Simulators developed under Curtiss-Wright Dehmel patents. The cost of training crews in a 4-engined aircraft is approximately \$450 per hour. For approximately \$60 per hour, pilots and crews can fly the Electronic Simulator, gaining experience without leaving the ground.



*Flight Simulators in production at the Curtiss-Wright Electronics Division.*



*"Snapper" precision thermal time delay relays have wide application in industry.*

The Electronics Division now has sixteen military and six commercial Simulator types in production and service for the U. S. Air Force and the major world airlines. Included among these types are Simulators for jet, turboprop and piston-engined aircraft. Simulators are in operation or have been ordered by the following airlines: United Air Lines, TWA, SAS, KLM, Air France, Lufthansa, Pan American World Airways, Swissair, Eastern Air Lines, Western Air Lines. Contracts for additional Simulators are in negotiation.

During the year, the Division made 10 installations of nuclear measurement systems, with industrial controls, in plants of nationally-known paper, plastic, rubber and textile manufacturers. These measurement systems, which use Beta rays to measure the weight per unit area or thickness of a moving sheet or strip of material, automatically maintain standards of quality to an accuracy heretofore unattainable. Typical of outstanding companies now using this equipment are the Downingtown Paper Company and Congoleum-Nairn.

The purchase in June 1955 of the assets of the Elly Electronics Corporation of Fair Lawn,

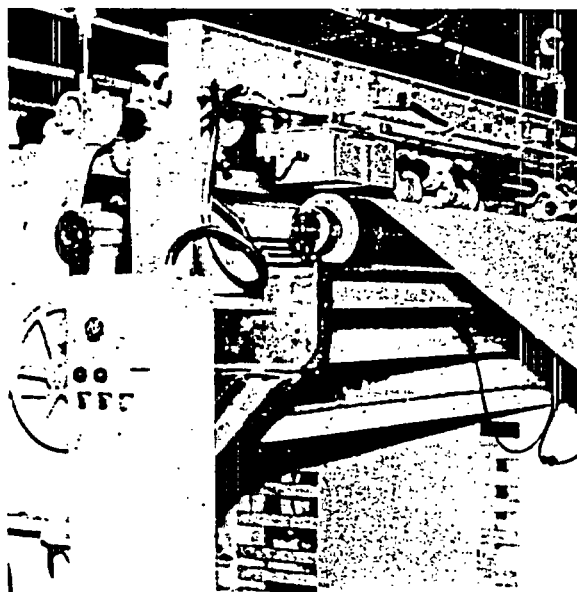
New Jersey, and acquisition of sole patent rights covering its production, supplemented the Electronics Division's automatic control equipment with a new line of precision thermal time delay relays, thermostats and associated products which have important applications in nuclear instrumentation, industrial controls and other electronic components.

## INDUSTRIAL and SCIENTIFIC PRODUCTS DIVISION

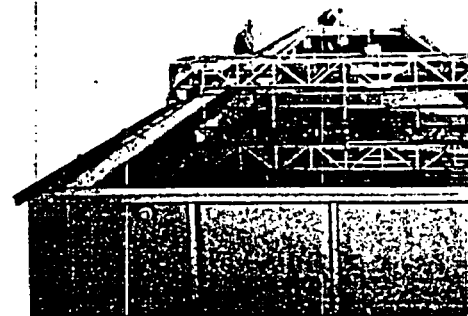
Caldwell, New Jersey

The Industrial and Scientific Products Division was established in 1954 to produce and market ultrasonic and specialized electronic devices for industry and to investigate new applications of equipment of this type.

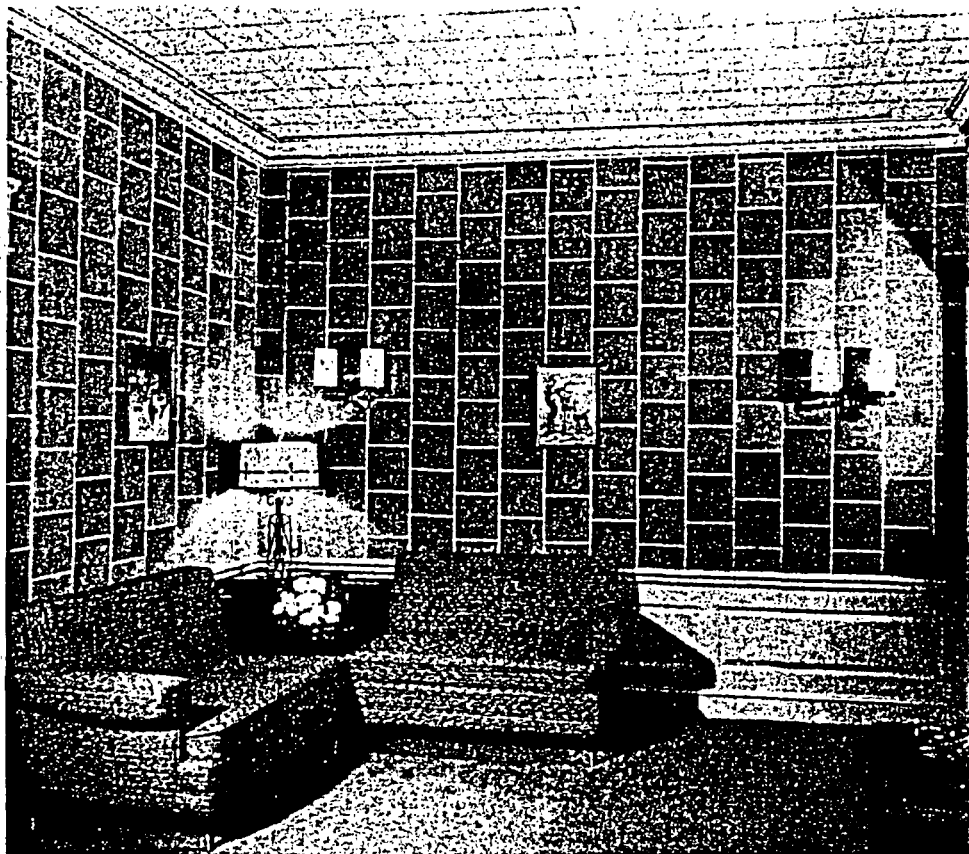
To increase its scope, this Division, during 1955, entered into an agreement with Electro-circuits, Inc. of Pasadena, California, through which it acquired exclusive sales rights throughout the world, together with patent and manufacturing rights, for a new line of non-destructive, ultrasonic testing equipment.



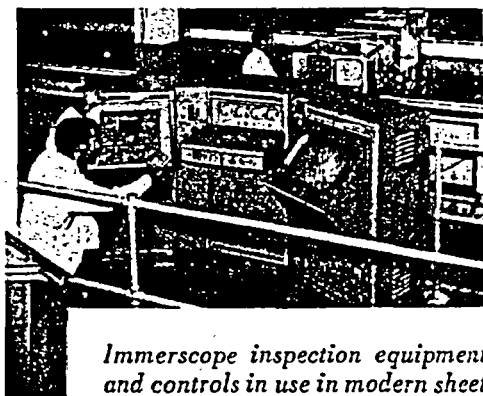
*Curtiss-Wright Nuclear Measurement System installed at Downingtown Paper Company.*



*Reception room of Curtiss-Wright New York office is fitted with experimental installations of carpet underlay, furniture upholstery, wall and ceiling covering, lamp shades and pictures—all of Curtiss-Wright plastic.*



This new line of equipment, employing the immersion type of ultrasonic inspection, makes possible the production-quantity testing of forgings, rolled plate, welding, tubing and extrusions of any solid material, such as steel, non-ferrous metals, wood and laminated plastics, with a higher degree of accuracy and control. Built-in alarm systems, which provide positive warning when flaws are uncovered, plus a recorder which keeps a permanent record of all data, enables users of these non-destructive ultrasonic testing devices to approach complete automation in quality control.



*Immerscope inspection equipment and controls in use in modern sheet metal plant.*

## PLASTICS DIVISION

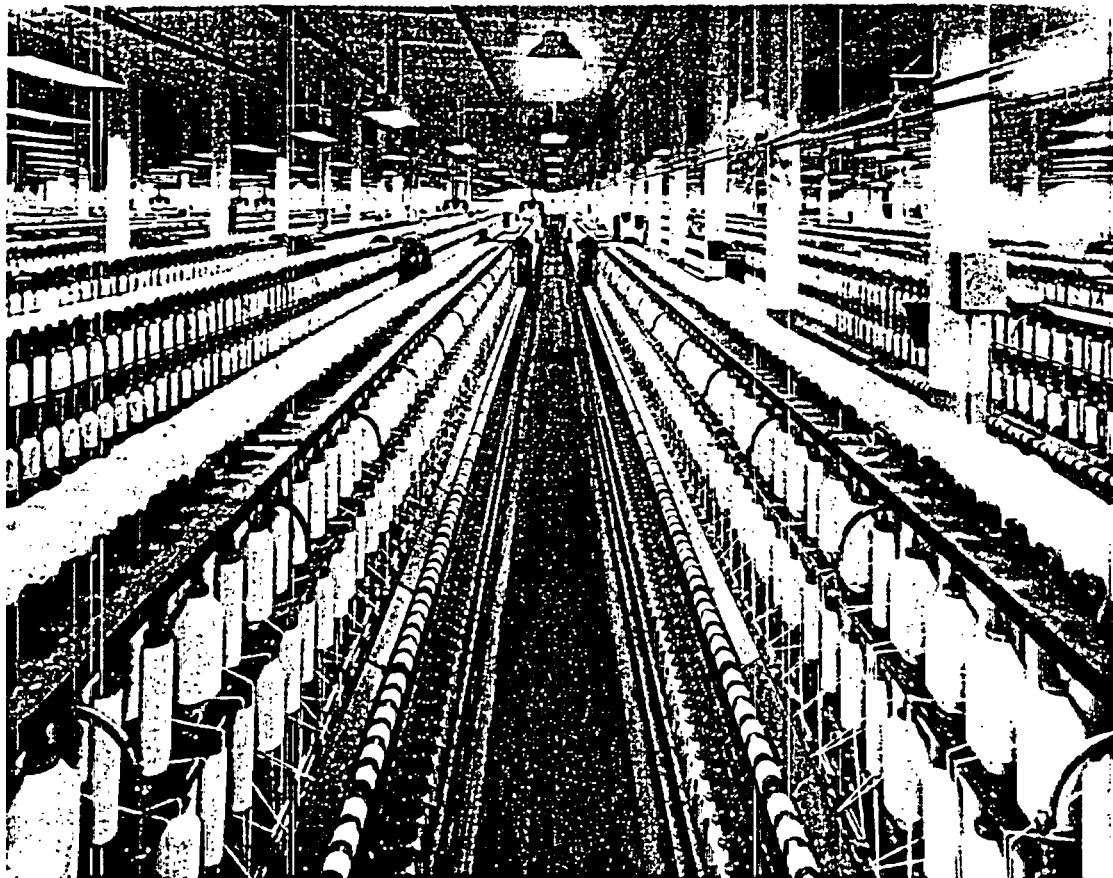
Quehanna, Pennsylvania

The Plastics Division, now in production at Quehanna, Pennsylvania, is preparing to market new products of versatile multi-cellular materials under Curtiss-Wright patent applications and licenses, including those obtained from Farbenfabriken Bayer, West Germany; E. I. du Pont de Nemours and Company, and Behr-Manning Division of the Norton Company.

These new materials can be manufactured in a variety of shapes and textures for household and industrial use ranging from soft resilient items to rigid forms. They can be impregnated with color and made translucent or opaque. The finished products can be cleaned, washed and painted.

Extensive tests of the many consumer, aeronautical and industrial applications of this material for thermal and acoustical control, insulation and decoration are being conducted as part of the overall Curtiss-Wright research program.





*Typical installation of Marquette spindles in textile mill.*

## MARQUETTE METAL PRODUCTS DIVISION

Cleveland, Ohio

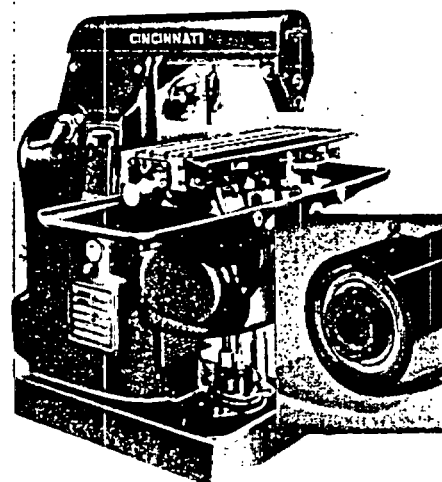
The product lines of the Marquette Metal Products Division were broadened during 1955 by research and development, the purchase of the assets and patents of the Massey Machine Company, of Watertown, New York, manufacturers of engine governors, and an agreement with Robert H. Thorner, of Detroit, Michigan. Through the acquisition of rights to the Thorner patents and patent applications for pressure-sensing and vacuum-sensing speed governors for internal combustion engines, and the purchase of the Massey Company, now being operated as a division of Marquette, your Company has further enhanced its position as a producer of engine-governing equipment.

Marquette precision clutches, used in machine tools, household appliances and industrial equipment, are now being produced in a wide range of sizes—from fractional horsepower types up to models handling 1000 h.p. A clutch capable of transmitting 3000 h.p. is under current test and development for the U. S. Navy. More than 10,000,000 Marquette precision clutches have been built to date.

High-speed, anti-friction textile spindles continue to be an important part of Marquette production.

The Marquette Division is the nation's leading manufacturer of aircraft windshield wipers.

*Compact Marquette Clutches (inset) are standard equipment on this Cincinnati miller.*





## **CALDWELL WRIGHT DIVISION**

Caldwell, New Jersey

Increased sales of the Caldwell Wright Division, located on the Curtiss-Wright airport at Caldwell, has required expansion into buildings formerly devoted to flight test operations and the formulation of plans for a new building to house additional shops.

Principal among the activities of the Division is the overhaul of aircraft engines and components for private operators, airlines, and military organizations. The ever-widening use of the Turbo Compound engine, particularly by smaller airline operators without major overhaul facilities and international airlines which do not maintain U. S. bases, has resulted in increased sales and sales prospects. An additional factor in Caldwell Wright's growth was its designation, during 1955, as the national distributor of spare parts, with responsibility for accrediting and supervising maintenance and overhaul depots, for Curtiss-Wright aircraft engines.

## **CURTISS-WRIGHT OF CANADA, LTD.**

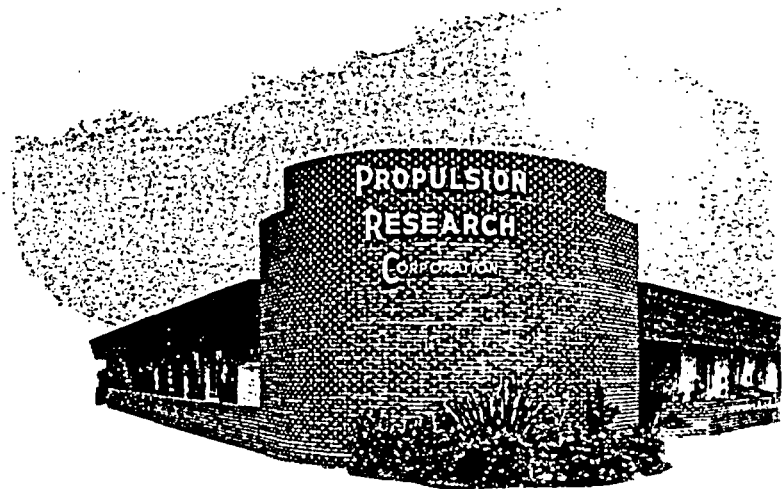
Montreal, Canada

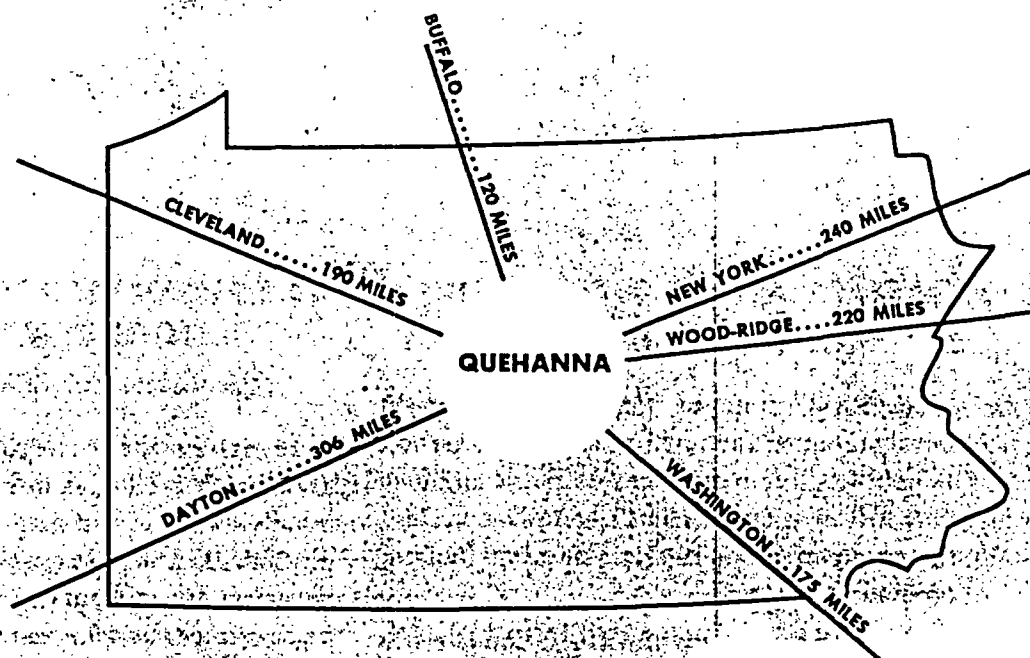
Curtiss-Wright of Canada, Ltd., a wholly-owned subsidiary, was formed in 1954 to provide sales and service representation for all Curtiss-Wright products and liaison with your Company's licensees in Canada.

## **PROPULSION RESEARCH CORPORATION**

Santa Monica, California

Propulsion Research Corporation, acquired in December, 1955, is now being operated as a wholly-owned subsidiary of Curtiss-Wright. Formed in 1951, Propulsion Research is an organization of outstanding scientists and engineers engaged in research, design, testing, and project management of primary propulsion units and the design, development and production of accessory equipment. It will function as a separate Corporation and will continue to specialize in advanced aircraft power plants. Expansion of the existing facilities of this subsidiary, which is an important adjunct to the engineering and scientific capabilities of the Curtiss-Wright Corporation, are included in projected plans.





## RESEARCH DIVISION

Quehanna, Pennsylvania

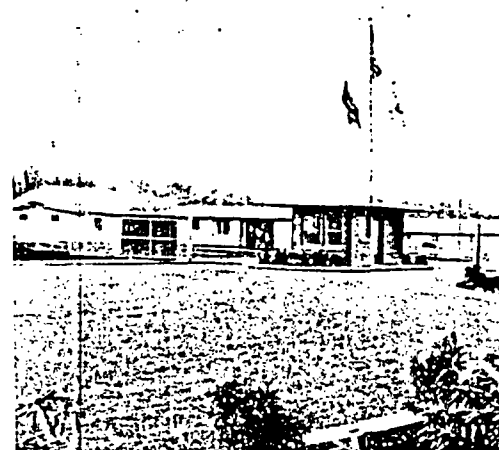
In preparation for extension of research, testing, development and manufacturing activities, dictated by your Company's growth, integration and fortification plans, a new Research Division was created in 1954.

In 1955, the programs of this Division and of the Plastics Division were implemented by the establishment of a new Research and Development and Manufacturing Center on a sixteen-

sided tract of land, 80 square miles in size, in Central Pennsylvania.

This site, named Quehanna by your Company as a tribute to the traditions of the area, comprises 51,175 acres of which 8,579 acres were purchased and 42,596 acres have been leased from the Commonwealth of Pennsylvania for 99 years.

Ground was broken for Quehanna on June 21, 1955, following authorization of the sale and lease of the land by the Pennsylvania Legi-





*Night view of Curtiss-Wright research jet engine on test at Quehanna.*

lature. By November 19, 1955—121 days later—when Flag Raising Ceremonies were held at the site, seven buildings and essential facilities, two test areas, and many miles of roads had been completed and the Plastics Division moved to its new location. Today, the Plastics Division is in production and engines are undergoing tests as two additional buildings near the final stages of construction.

Quehanna is centrally located to the industrial East and to other Curtiss-Wright offices

and plants in New Jersey, Washington, Buffalo, Cleveland, and to Dayton, the headquarters of the U. S. Air Force Materiel Command.

Quehanna is designed to strengthen the position of your Company in many fields of science—aerodynamics, thermodynamics, metallurgy, chemistry, nuclear energy, ultrasonics, electronics and plastics. Development in any one of these sciences today may contribute to the advancement of others. All are becoming more interrelated as the future is probed.



*The entrance to Quehanna.*

## **SPECIALTIES DIVISION**

Wood-Ridge, New Jersey

The Specialties Division was organized for the sale and licensing of proprietary rights, patents, and designs owned or held by Curtiss-Wright, and the acquisition of new rights for new products.

The results of the work of this Division are reflected in the current production of several of the operating divisions of your Company. Continuing investigations and evaluations by the Specialties Division are contributing to our expansion programs.

## **CURTISS-WRIGHT EUROPA N.V.**

Amsterdam, The Netherlands

Curtiss-Wright Europa N. V. was established in 1953 to provide the Air Forces of the NATO nations with a European source of supply for spare parts for the Curtiss-Wright J-65 jet engine. By the end of 1955, approximately 1,000 parts for the J-65 were being produced, under the supervision of this Division, by prime and subcontractors in Holland, France, England, Italy, Belgium and Germany.

In less than three years, Curtiss-Wright Europa established its organization, equipped a new two-story building leased from the City of Amsterdam at Schiphol Airport, processed more than 11,000 quotations, screened potential vendors, successfully substituted European materials, placed production orders, set-up a quality laboratory to check conformity of parts

to standards, and completed three full-scale 150 hour tests on J-65 engines to substantiate European-manufactured parts.

## **EXPORT DIVISION**

30 Rockefeller Plaza

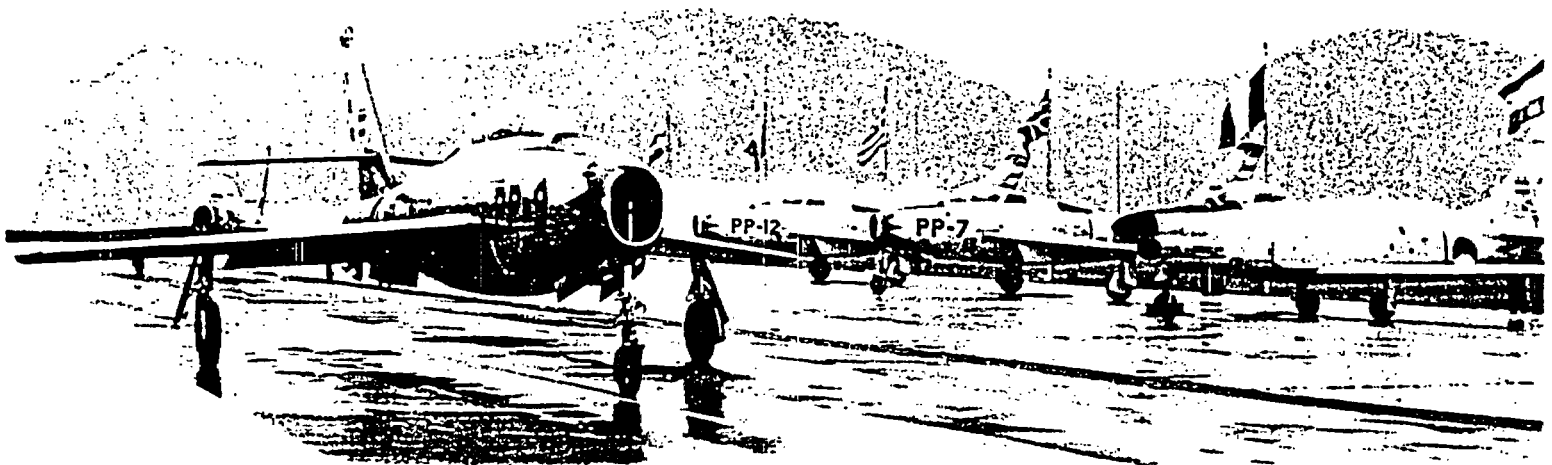
New York, New York

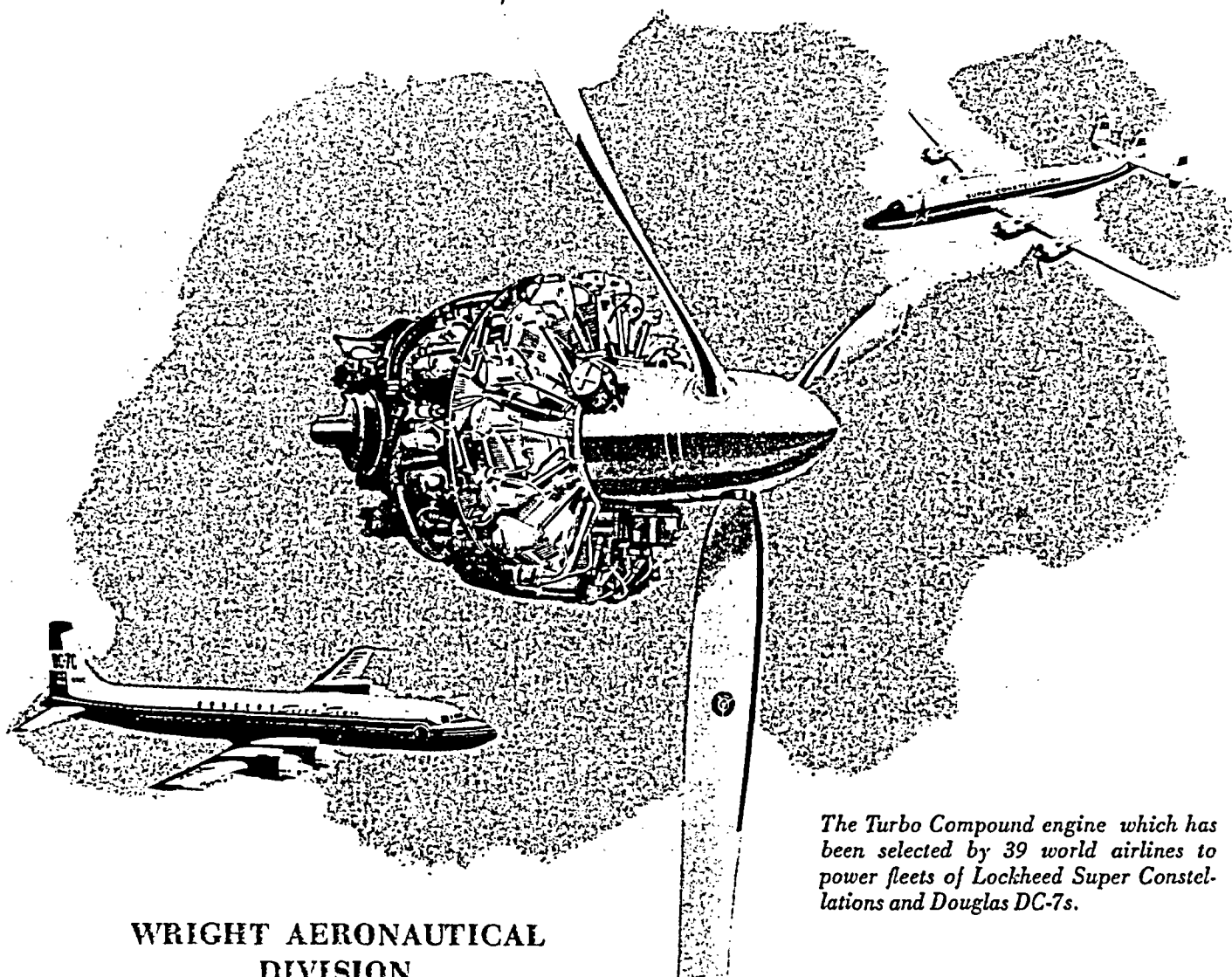
Sales by the Export Division of Curtiss-Wright products throughout the world reached a new post-war high in 1955. It is anticipated that the sales and income of this Division will continue to increase during 1956 with good prospects of doubling 1955 performance in 1957.

New orders for Simulators received during 1955 and early 1956 included a DC-7C Simulator for KLM (Royal Dutch Airlines); two Lockheed Super Constellation (1049 and 1649) Simulators for Air France and a Lockheed Super Constellation Simulator for Lufthansa. Two DC-6B Flight Simulators, delivered through this Division to Swissair and Scandinavian Airlines System, are now in operation. Flight Simulators of these types cost approximately \$1,000,000 each.

Sales of Turbo Compound engines were made through the Export Division in 1955 to five additional international airlines: Linee Aeree Italiane, Aerolinee Italiane Internazionali, Compagnie de Transports Aeriens Intercontinentaux, Sabena—Belgian World Airlines and Swiss Air Transport Company.

These new orders increase the number of international, foreign-based air carriers using the Turbo Compound to 24.





*The Turbo Compound engine which has been selected by 39 world airlines to power fleets of Lockheed Super Constellations and Douglas DC-7s.*

## WRIGHT AERONAUTICAL DIVISION

Wood-Ridge, New Jersey

Wright Aeronautical Division's development of ram jet engines for piloted aircraft and guided missiles was highlighted by four disclosures made in 1955—(1) release by the U. S. Air Force of previously restricted security data that a Curtiss-Wright ram jet made the world's first successful flight of a power plant of this type in 1952, (2) the opening of a new \$7,700,000 addition to the Wright Aeronautical ram jet laboratory and test facility established in 1947, (3) the release of a photograph of a Curtiss-Wright supersonic ram jet, and (4) the an-

nouncement that Curtiss-Wright ram jets are being developed for use in long-range guided missiles. Ram jets are most efficient at speeds of 1500 to 2500 miles per hour (Mach 2 and up) and can operate up to altitudes of 80,000 feet. These high speeds and altitudes plus long range are important requirements in future National Defense programs.

Shipments of aircraft engines and spare parts to commercial airline and military operators increased substantially in 1955. Twelve additional air carriers selected the Turbo Compound

*J65-powered Thunderstreaks of the Royal Netherlands Air Force on the ramp near the Curtiss-Wright Europa plant on Schiphol Airport, Amsterdam.*





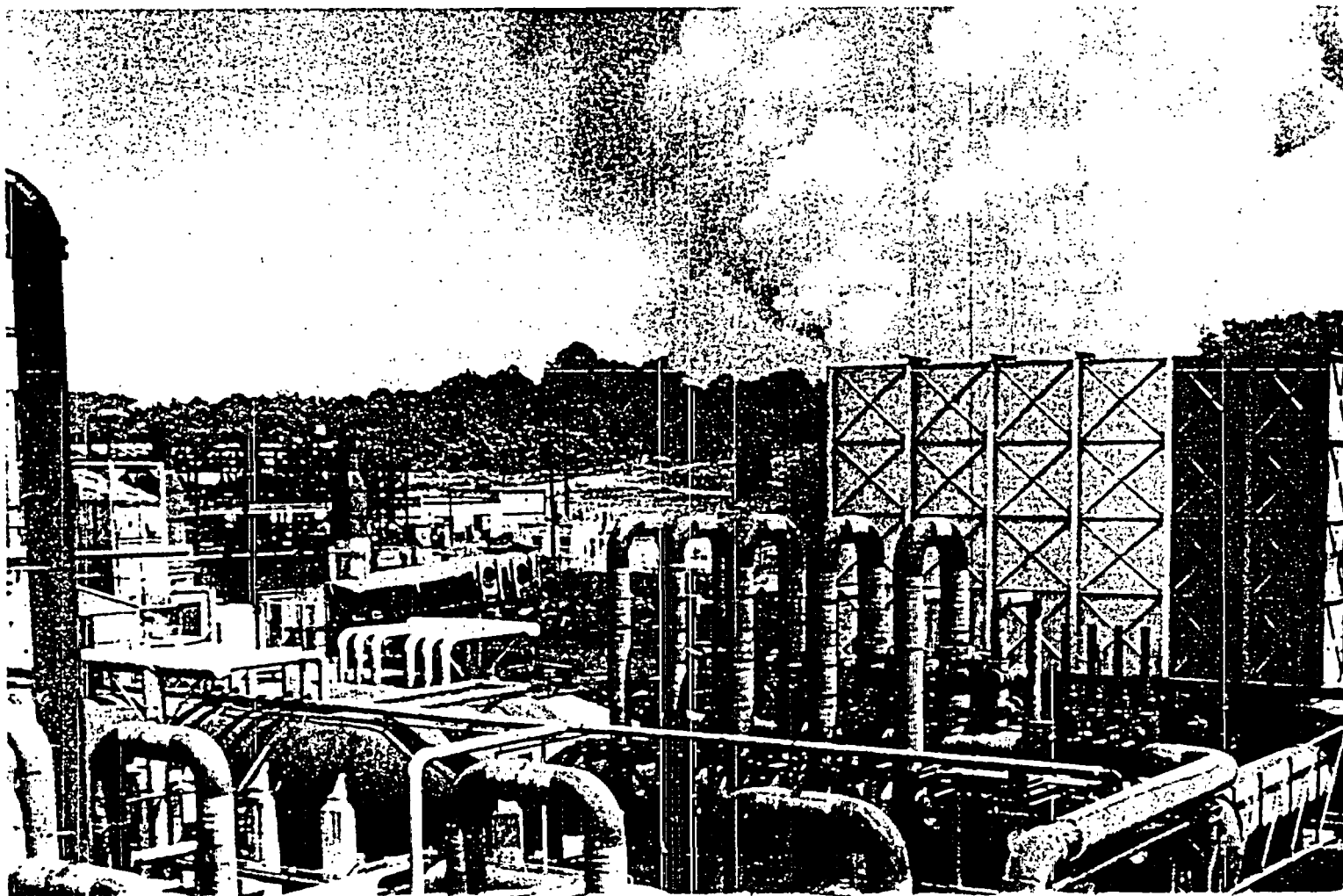
to power Lockheed Super Constellation and Douglas DC-7 transports. These new orders have increased the number of leading world airlines using the Turbo Compound to a total of 39. Turbo Compounds were also delivered in quantity, during 1955, to the U. S. Air Force and the U. S. Navy for long-range, high-performance transports, reconnaissance planes and patrol aircraft.

A new and more powerful series of the Turbo Compound—the EA-1—was introduced during the year. The EA-1, through higher take-off and cruising ratings, was an important factor in development of the longer range, high performance Douglas DC Seven Seas and Lockheed

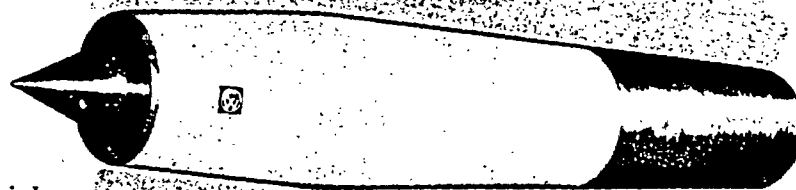
Super G Constellations ordered by trans-oceanic air carriers. The dependability of the Turbo Compound has been proven by 17,000,000,000 passenger miles flown to date in commercial operations with a perfect safety record.

The Curtiss-Wright Cyclone 9, rated at 1500 H.P., which has become a standard power plant for military helicopters, was selected by New York Airways and Sabena to equip new fleets of Sikorsky helicopters which will enter commercial service this year. The Cyclone 9 was also chosen in 1955 to power the Hurel-Du Bois HD-35, a unique medium range transport of French manufacture which can carry 44 passengers or 17,000 pounds of freight up to

*Ram jet test facility at Wood-Ridge, New Jersey.*



*Supersonic Curtiss-Wright  
Ram Jet engine—a 1500-2500  
M.P.H. power plant.*



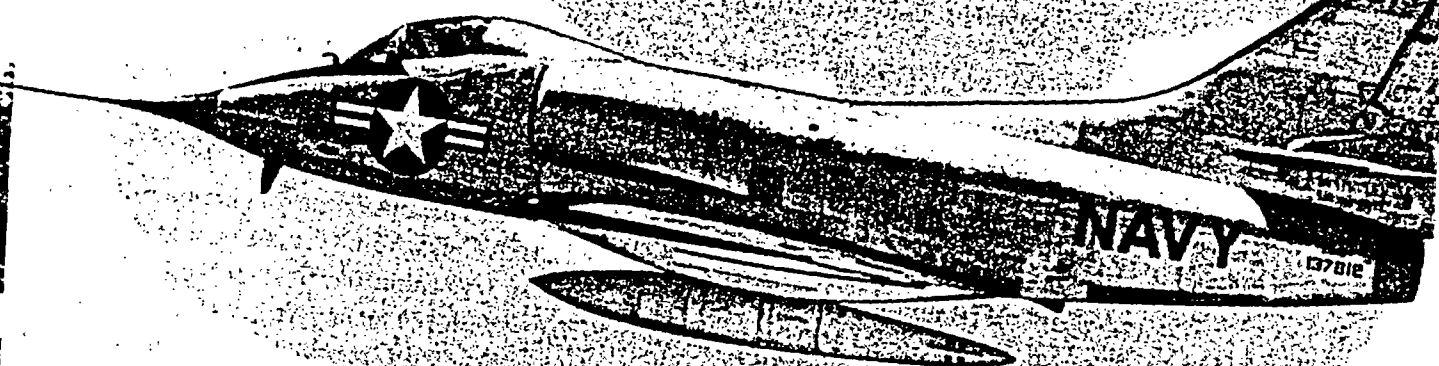
1500 miles. The HD-35 is being offered as a replacement for the Douglas DC-3.

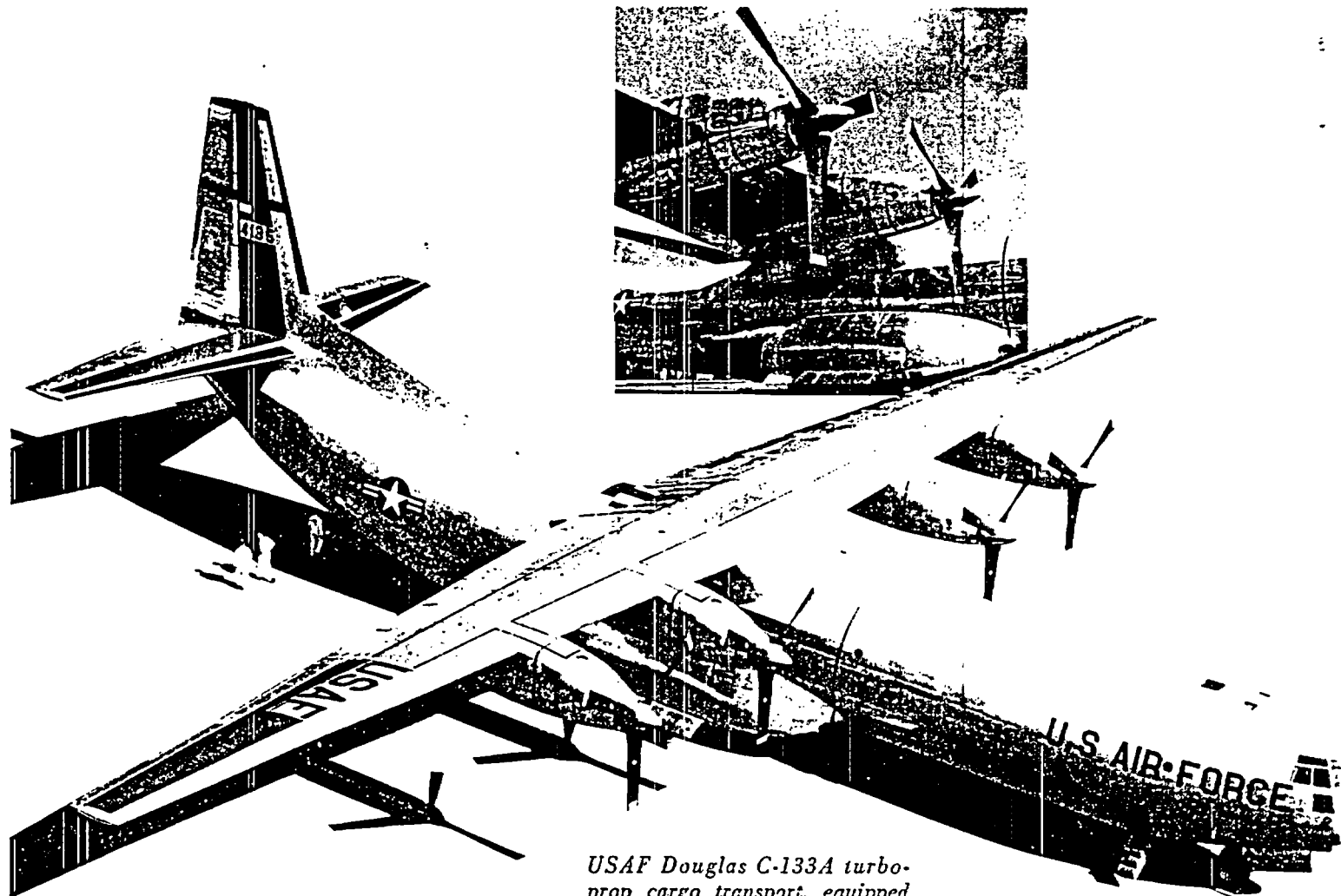
The Curtiss-Wright J-65 jet engine, which continued in full production during 1955, established several new records for performance. Of particular note was the new world's record for closed course speed of 695 m.p.h. set by the U. S. Navy A4D Skyhawk attack bomber at altitudes under 328 feet.

A new spare parts depot was established by the Division in 1955 to provide improved service to commercial and military customers throughout the world. The operation of this new depot has markedly reduced time between receipt of orders and shipment of parts.

Development work continued on advanced jets and other new power plants of a classified nature.

*Modern military aircraft powered by Curtiss-Wright engines:  
(Top) Lockheed RC-121 reconnaissance plane; (bottom)  
Douglas A4D.*





*USAF Douglas C-133A turbo-prop cargo transport, equipped with four Turboelectric Propellers.*

## **TURBOMOTOR DIVISION**

Hempstead, Long Island

Through the new Turbomotor Division, formed in January 1956, Curtiss-Wright will develop engines in categories suitable for aircraft, helicopters, missiles, drones and non-aircraft uses.

The Turbomotor Division will be operated independently of other divisions of the Company. In addition to providing your Company with entry into new engine markets, it is anticipated that the Turbomotor Division will contribute to the overall advancement of the science of propulsion.

## **PROPELLER DIVISION**

Caldwell, New Jersey

The larger part of the production of this Division during 1955 was devoted to the manufacture of Turboelectric Propellers for new, high-speed military aircraft.

Turboelectric Propellers equipped the Boeing YC-97J which in January of this year made the first transatlantic flight of a U. S. turboprop-powered transport flying from Newfoundland to Scotland in 6 hours, 3 minutes. This flight was characterized by the British press as "the fastest time for a propeller aircraft."

Turboelectric Propellers have been specified

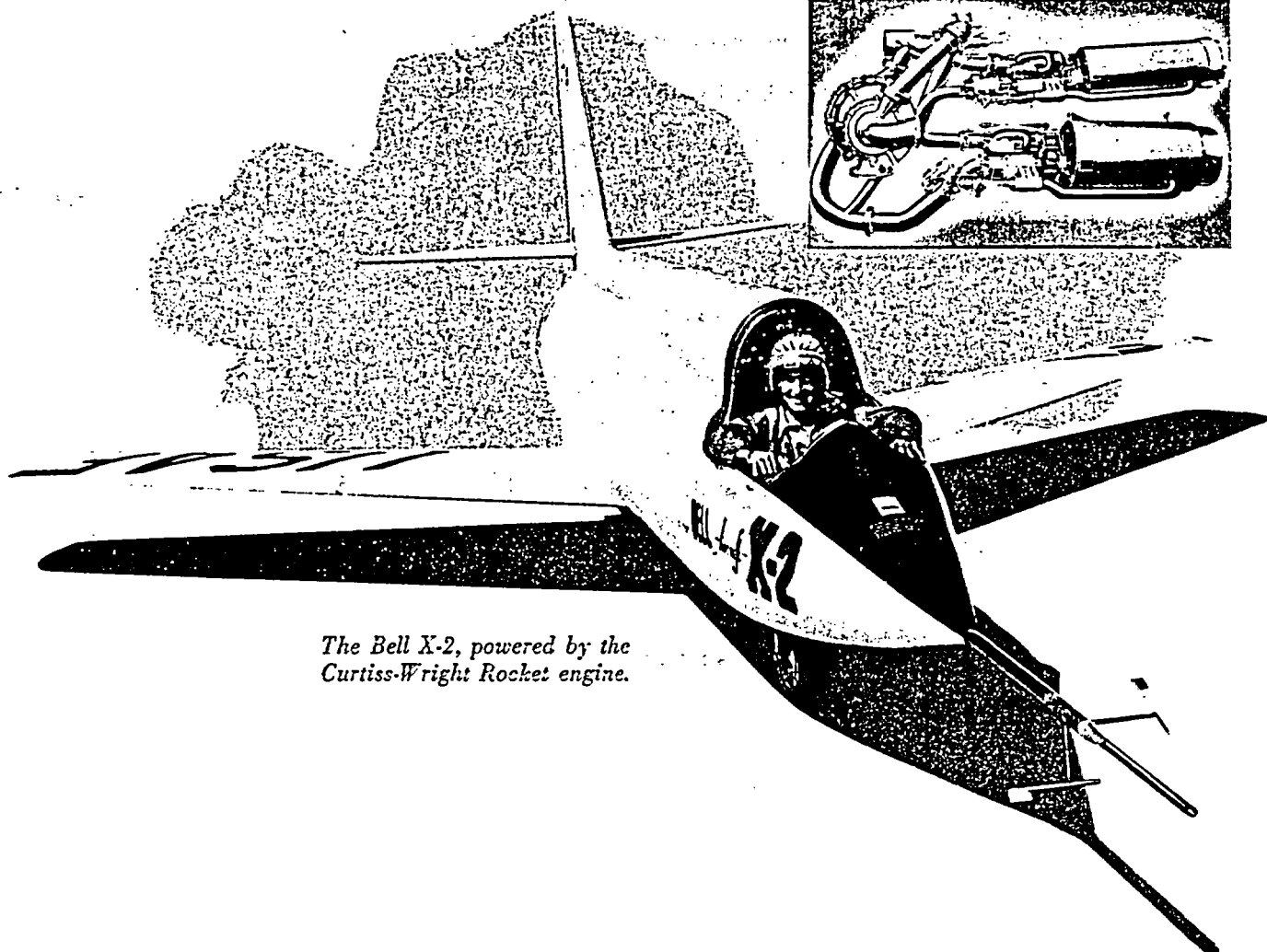
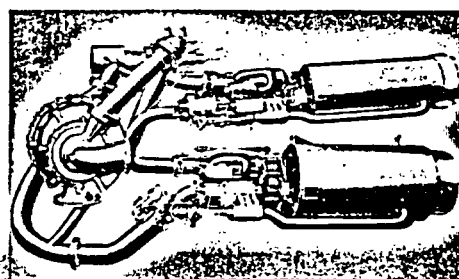
and are now in production for the 4-engined Douglas C-133 A—the U. S. Air Force's newest and largest turboprop cargo transport which was unveiled in February, 1956. This high-speed, long-range aircraft, which will lift twice the payload of any military transport now in service, is expected to establish new standards of performance as a global carrier of air transport.

The Bell X-2, U. S. Air Force supersonic thermal barrier research plane, equipped with the throttleable rocket engine developed by the Propeller Division, was test flown in 1955.

This rocket engine develops a thrust equal to the power required to drive a Navy cruiser at high speeds. Its throttleable feature opens the way to the use of rockets in tactical aircraft as well as in guided missiles. Designed for speeds in excess of the X-1, which has flown at more than 1650 miles per hour, the Curtiss-Wright powered X-2 is expected to contribute substantially to heat barrier research.

The Division also produces Curtiss Electric Propellers for piston-engine powered military and commercial aircraft.

*The Curtiss-Wright throttleable Rocket engine.*



*The Bell X-2, powered by the Curtiss-Wright Rocket engine.*

# **CURTISS-WRIGHT CORPORATION AND SUBSIDIARIES**

## *Consolidated Balance Sheet*

### **ASSETS:**

	<u>1955</u>	<u>1954</u>
<b>CASH</b> . . . . .	\$ 14,510,686	\$ 15,743,216
<b>UNITED STATES GOVERNMENT SECURITIES, at cost</b> . . . . .	16,408,029	12,989,811
<b>RECEIVABLES, principally United States Government</b> . . . . .	91,337,474	61,142,225
<b>INVENTORIES of raw materials, parts, supplies and work in process, at the lower of cost or market, less partial payments on contracts, under which title to related inventories vests in the United States Government: 1955, \$18,938,244; 1954, \$38,155,012</b> . . . . .	<u>72,125,317</u>	<u>75,945,797</u>
<b>CURRENT ASSETS</b> . . . . .	194,381,506	165,821,049
<b>PREPAID INSURANCE AND OTHER EXPENSES</b> . . . . .	1,175,276	431,304
<b>MANUFACTURING FACILITIES, at cost, less accumulated depreciation and amortization: 1955, \$46,388,976; 1954, \$44,640,487</b> . . . . .	31,410,329	28,840,887
<b>MISCELLANEOUS INVESTMENTS, less reserves</b> . . . . .	<u>61,069</u>	<u>336,094</u>
	<u>\$227,028,180</u>	<u>\$195,429,334</u>



*December 31, 1955 and 1954*

**LIABILITIES:**

	<u>1955</u>	<u>1954</u>
PAYABLES, trade creditors . . . . .	\$ 14,996,054	\$ 15,355,878
ACCRUED WAGES, TAXES AND OTHER EXPENSES (Note 4) . . . . .	10,481,921	7,333,623
ADVANCES ON CONTRACTS (nonmilitary) . . . . .	16,522,259	9,719,853
PROVISION FOR FEDERAL TAXES ON INCOME, less tax anticipation notes: 1955, \$38,321,571; 1954, \$27,000,000 . . . . .	18,479,779	18,922,721
OTHER LIABILITIES . . . . .	9,004,791	7,685,230
CURRENT LIABILITIES . . . . .	<u>\$ 69,484,804</u>	<u>\$ 59,017,305</u>

**CAPITAL:**

**CAPITAL STOCK (Note 1):**

CLASS A STOCK, \$1 par value, authorized 2,000,000 shares, issued and outstanding 953,719 shares . . . . .	\$ 953,719	\$ 953,719
COMMON STOCK, \$1 par value, authorized 10,000,000 shares, issued 7,432,039-29/120 shares . . . . .	7,432,039	7,432,039
CAPITAL SURPLUS . . . . .	15,762,813	15,639,806
EARNED SURPLUS . . . . .	<u>137,566,632</u>	<u>116,621,363</u>
	161,715,203	140,646,927
Less, Cost of common stock in treasury: 1955, 440,000 shares; 1954, 446,652 shares (Note 5) . . . . .	<u>4,171,827</u>	<u>4,234,898</u>
	<u>\$157,543,376</u>	<u>\$136,412,029</u>
	<u>\$227,028,180</u>	<u>\$195,429,334</u>

*The appended notes are an integral part of these balance sheets.*

## CURTISS-WRIGHT CORPORATION AND SUBSIDIARIES

*Consolidated Statements of Income*

for the years ended December 31, 1955 and 1954

	<u>1955</u>	<u>1954</u>
SALES . . . . .	\$508,703,445	\$475,084,43
COSTS AND EXPENSES:		
Cost of sales . . . . .	\$356,887,327	\$364,172,53
Engineering, research and development expenses . . . . .	55,723,997	50,919,76
Administrative, selling and service expenses . . . . .	24,930,079	21,626,69
	<u>\$437,541,403</u>	<u>\$436,718,99</u>
	<u>\$ 71,162,042</u>	<u>\$ 38,365,44</u>
OTHER INCOME:		
Interest . . . . .	\$ 1,085,899	\$ 226,67
Profit on sales of fixed assets . . . . .	246,112	149,75
Royalties and rents . . . . .	213,356	595,19
Miscellaneous, net . . . . .	(126,364)	40,25
	<u>\$ 1,419,003</u>	<u>\$ 1,011,85</u>
	\$ 72,581,045	\$ 39,377,27
PROVISION FOR FEDERAL INCOME TAXES. . . . .	37,500,000	20,000,00
NET INCOME FOR THE YEAR . . . . .	<u>\$ 35,081,045</u>	<u>\$ 19,377,27</u>

Costs and expenses include provisions for depreciation and amortization: 1955, \$2,992,442, which is after a reduction of \$2,609,298 representing prior years' adjustments based upon Internal Revenue Service examinations; 1954, \$5,454,394.

*The appended notes are an integral part of these statements.*

**CURTISS-WRIGHT CORPORATION AND SUBSIDIARIES**

*Consolidated Statements of Surplus*

for the years ended December 31, 1955 and 1954

**EARNED SURPLUS:**

	<u>1955</u>	<u>1954</u>
BALANCE AT BEGINNING OF YEAR . . . . .	\$116,621,363	\$106,135,108
NET INCOME FOR THE YEAR . . . . .	<u>35,081,045</u>	<u>19,377,279</u>
	<u>\$151,702,408</u>	<u>\$125,512,387</u>

Deduct:

Cash dividends paid:

CLASS A STOCK, \$2.00 per share in each year . . . . .	\$ 1,907,336	\$ 1,907,336
COMMON STOCK, 1955, \$1.75 per share;		
1954, \$1.00 per share . . . . .	<u>12,228,440</u>	<u>6,983,688</u>
	<u>\$ 14,135,776</u>	<u>\$ 8,891,024</u>
BALANCE AT END OF YEAR . . . . .	<u>\$137,566,632</u>	<u>\$116,621,363</u>

**CAPITAL SURPLUS:**

BALANCE AT BEGINNING OF YEAR . . . . .	\$ 15,639,806	\$ 15,639,806
ADD, Excess of market value over cost of 13,986 shares of treasury stock exchanged for assets of a company acquired . . . . .	<u>123,007</u>	<u>          </u>
BALANCE AT END OF YEAR . . . . .	<u>\$ 15,762,813</u>	<u>\$ 15,639,806</u>

*The appended notes are an integral part of these statements.*



*Subsidiary  
Report*

**LYBRAND, ROSS BROS. & MONTGOMERY**  
CERTIFIED PUBLIC ACCOUNTANTS

To the Stockholders,  
Curtiss-Wright Corporation:

We have examined the consolidated balance sheet of CURTISS-WRIGHT CORPORATION and Subsidiaries as of December 31, 1955 and the related statements of income and surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. It is not the general practice of the United States Government to confirm accounts receivable or payable; in the absence of confirmation, we followed such other audit procedures as we deemed appropriate.

In our opinion, the accompanying balance sheet and statements of income and surplus present fairly the consolidated financial position of Curtiss-Wright Corporation and Subsidiaries at December 31, 1955, and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

LYBRAND, ROSS BROS. & MONTGOMERY

New York, February 24, 1956.

**CURTISS-WRIGHT CORPORATION AND SUBSIDIARIES**

*Notes to  
Financial Statements*

1. The Class A stock is callable at \$40 per share, convertible into common stock, share for share, and preference as to noncumulative dividends not exceeding \$2 per share per annum. Of the authorized unissued common stock 953,719 shares are reserved for conversion of Class A stock and 27,422 shares are reserved for issuance of \$28½ under an option granted in connection with purchase of a company during 1955.

2. Price redetermination proceedings under contracts with the United States Government have been completed. Sales under such contracts are recorded at estimated amounts.

3. Renegotiation proceedings have been completed through 1952 and no refunds were required. The cost reduction programs have resulted in substantial increase in profits to the Government with selling price reductions to the Government aggregating excess of \$100,000,000 of which approximately \$60,000 was applicable to 1955 deliveries. The management believes that no excessive profits have been realized in relation to sales or net worth and has made no provision for renegotiation refunds for the years subsequent to 1952.

4. Under the Corporation's stockholder approved Incentive Compensation Plan, additional compensation to 794 employees of \$3,905,450, payable over a period, was awarded in 1956 based on the Corporation's earnings for the year 1955. The 1956 awards, together with unpaid installments of prior years' awards, are included in applicable federal income taxes, in "Accrued taxes and other expenses" in the consolidated balance sheet.

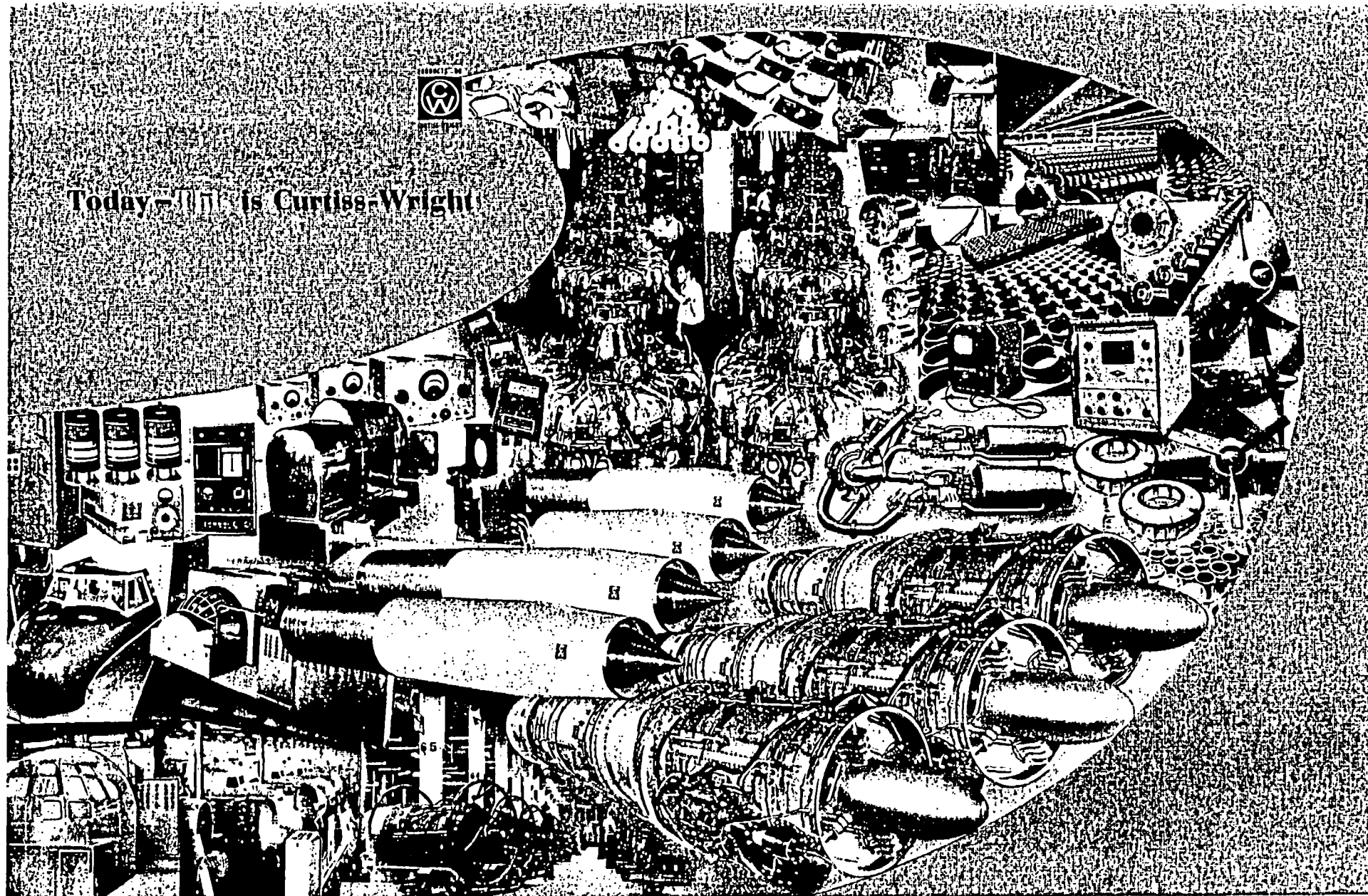
5. Under the Corporation's stockholder approved Restricted Stock Option Plan for key employees, including officers, 400,000 shares of common stock in treasury reserved for issuance as follows (the prices being not less than 95 per cent of highest market prices on date options were granted):

<i>Dates Granted</i>	<i>Number of Shares</i>	<i>Per Share</i>
December 31, 1954	841,000	\$
June 29, 1955	6,000	
October 31, 1955	53,000	
	<u>400,000</u>	

One-half of the options are exercisable after one year from the date granted. The remaining 40,000 shares in treasury are reserved for future options. All options expire on December 31, 1956, or earlier in cases of death or termination of employment otherwise than under the Corporation's Retirement Plan.



Today - This is Curtiss-Wright







## *Transfer Agents*

CLASS A STOCK—Chemical Corn Exchange Bank, 30 Broad Street, New York 15, N. Y.

COMMON STOCK—City Bank Farmers Trust Company, 22 William Street, New York 15, N. Y.

CLASS A AND COMMON STOCKS—Commercial Trust Company of New Jersey, 15 Exchange Place, Jersey City 2, N. J.

## *Registrars*

CLASS A STOCK—The Hanover Bank, 70 Broadway, New York 15, N. Y.

COMMON STOCK—Bankers Trust Company, 16 Wall Street, New York 15, N. Y.

## *Corporate Counsel*

Breed, Abbott & Morgan, 15 Broad Street, New York 5, N. Y.