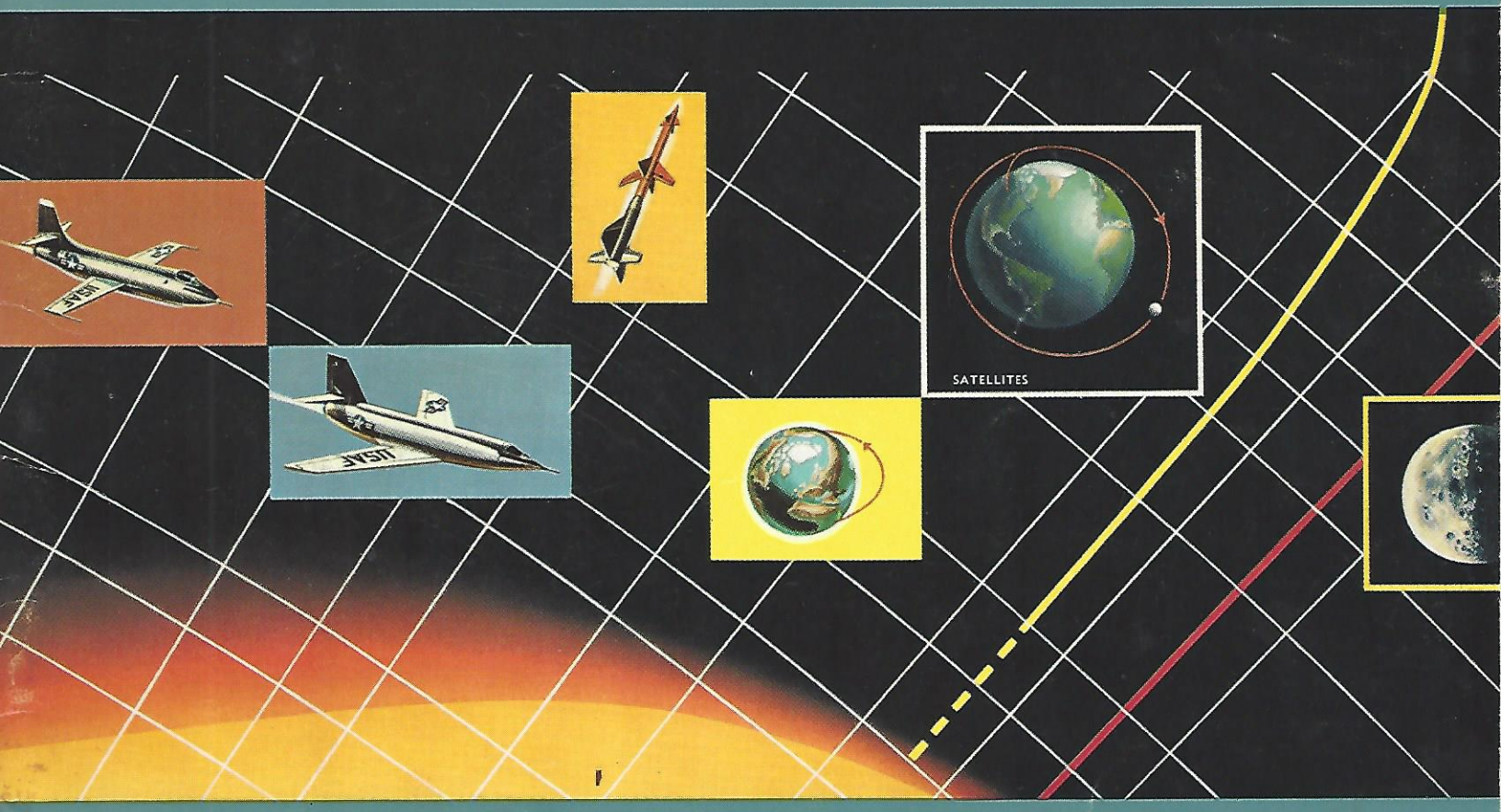
twentieth

ANNUAL REPORT

1955



BELL *Aircraft* CORPORATION

Toward New Frontiers

Progress of man's mastery of flight and the new frontiers toward which he is striving are represented in these symbols. Today we are reaching altitudes undreamed of in the Wright brothers era as we move toward outer space. Inter-planetary travel lies ahead.

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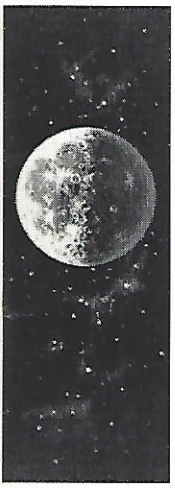
Photo of Mr. Bell (Page 3) by Fabian Bachrach.

Color reproduction of double rocket engine run by George Hunter (Page 18) courtesy of Time, Inc.

ANNUAL REPORT FOR THE YEAR ENDED

ANNUAL MEETING

The annual meeting of stockholders of Bell Aircraft Corporation will be held at the executive offices of the corporation, Town of Wheatfield, N. Y., on Monday, April 16, 1956 at 2 p.m. E.S.T.



BELL Aircraft CORP.
and
SUBSIDIARY COMPANIES

DECEMBER 31, 1955

DIRECTORS

LAWRENCE D. BELL	President
JOHN E. BIERWIRTH	President, National Distillers Products Corp.
R. SHERRARD ELLIOT, JR.	Executive Vice President, The Equity Corp.
LESTON P. FANEUF	Vice President and General Manager, Treasurer
PAGE HUFTY	Chairman, Finance Committee, Northeastern Insurance Co.
ELLERY C. HUNTINGTON, JR.	Chairman, The Equity Corp.
DAVID M. MILTON	President, The Equity Corp.
GEORGE OLMSTED, MAJ. GEN. USA (RES.)	Chairman, Hawkeye-Security Insurance Co.
OTTO A. PFAFF	President, Wheelabrator Corp.
FREDERICK F. ROBINSON	President, National Aviation Corp.
J. FREDERICK SCHOELLKOPF, IV	President, Niagara Share Corp.
C. S. STUCKENHOLT	President, The W. J. Schoenberger Co.
WEBSTER B. TODD	President, Real Estate Equities, Inc.
RAY P. WHITMAN	First Vice President
WALTER A. YATES	Vice President, Spaulding-Yates, Inc.

OFFICERS

LAWRENCE D. BELL	President
LESTON P. FANEUF	Vice President and General Manager, Treasurer
RAY P. WHITMAN	First Vice President
JULIUS J. DOMONKOS	Vice President
ROY J. SANDSTROM	Vice President
HARVEY GAYLORD	Vice President
WILLIAM G. GISEL	Secretary and Comptroller
G. B. CLARK	Assistant Vice President
JOSEPH E. CONNERS	Assistant Vice President
HERBERT H. MUNSEY	Assistant Vice President
JOHN W. RANE, JR.	Assistant Vice President
JOHN F. STRICKLER, JR.	Assistant Vice President

CORPORATE DATA

EXECUTIVE OFFICES—P.O. Box 1, Buffalo 5, N. Y.
Located in Wheatfield Plant, Town of Wheatfield, N. Y.,
adjacent to Niagara Falls Municipal Airport

TRANSFER AGENT—The Marine Midland Trust Company of New York, New York, N. Y.

REGISTRAR—The New York Trust Company, New York, N. Y.

the year at a glance

	1955	1954	1953
Results of Operations:			
Sales	$204,440,543	$185,646,114	$145,967,100
Income before taxes	12,014,482	13,054,243	10,561,223
Federal taxes on income	6,100,000	6,650,000	7,095,800
Net income	5,914,482	6,404,243	3,465,423
Financial Position:			
Shares outstanding	2,626,642	2,590,692	884,478
Dividends	$ 3,268,077	$ 3,233,249	$ 1,768,806
Working capital	22,758,024	19,500,786	11,160,096
Stockholders' equity (book value)	37,410,051	34,398,302	22,870,002
Bank loans and mortgage	1,250,000	8,250,000	14,250,000
Statistical:			
Number of employes	17,500	18,850	16,600
Number of stockholders	5,688	6,018	2,765
Square feet of floor space	3,290,000	3,250,000	2,900,000
Payroll	$ 99,700,000	$ 96,450,000	$ 80,900,000

report from the PRESIDENT

To the Stockholders and Employes:

The company's 20th anniversary year was highlighted by the largest sales total since World War II and the second highest net income in the company's history. Sales of $204,440,543 were approximately 10 per cent higher than the 1954 total. Net income after taxes of $5,914,482 was slightly lower than the record figure of $6,404,243 in 1954.

This decline in income was due in part to the fact that 1955 marked the first time the company had provided funds to start financing a pension plan for hourly employes. This first pension payment, approved by stockholders, amounted to $1,187,800.

Another high mark was the 14 per cent of total sales achieved in commercial products. These commercial sales accounted for approximately 35 per cent of the year's total net income.

Operations of the Helicopter Division in Texas were in many respects the most successful since we started our helicopter work 15 years ago. Helicopter sales reached an all-time high of $48,000,000 and more commercial helicopters were sold than in any previous year.

First deliveries were made of the newly-styled three-place Model 47H Bell helicopter, officially named the Bellairus. Acceptance of this custom-designed helicopter has been gratifying.

A similar but slightly larger four-place model, the Bell 47J, also designed for the executive and general utility helicopter markets, has undergone rigid flight tests and demonstrations and official Civil Aeronautics Administration certification is expected soon.

The U. S. Army, early in 1955 after an industry-wide competition, awarded to Bell's Helicopter Division a design contract for a turbine-powered, seven-place helicopter to be known as the Bell XH-40. Construction of the first flight article is under way.

High ranking representatives of the U. S. Army visited our Helicopter Division on February 10, 1955, to witness the official roll-out of the Army's XV-3 Bell convertiplane, following which first flight tests were conducted. This flight test program is continuing.

The U. S. Navy's large tandem-rotored Bell HSL helicopter provided the division's largest production during 1955 and deliveries of this model will be made throughout this year.

Active investigation progressed into the various phases of vertical rising and landing (VTOL) and short take-off and landing (STOL) aircraft. Work on different concepts is under way both in our Niagara Frontier and Helicopter Divisions.

More than 75 per cent of our scientific and technical effort in 1955 was concerned with guided missiles and related work. Our greatest single effort was expended on the Air Force GAM-63 Rascal missile which has already been identified as an air-to-surface missile of advanced design.

Two important airplane events occurred for Bell Aircraft in 1955. Delivery of the high performance X-2 research airplane was made to the Air Force Fight Test Center, Edwards, Calif., and the first powered flight was made late in the year. Following completion of the flight test program by our first vertical take-off jet airplane, which was built with company funds, a contract was received for a more advanced VTOL test airplane.

The Wheelabrator Corporation of Mishawaka, Ind., and The W. J. Schoenberger Company of Cleveland, wholly-owned subsidiaries, had one of the most successful operating years in their histories and made substantial contributions to the company's net income.

Another subsidiary, acquired late in 1954, Hydraulic Research and Manufacturing Company of Burbank, Calif., completed development work and received first production orders on several new products which have both commercial and military aircraft applications. It has proved advantageous to have this subsidiary located in the immediate vicinity of a large segment of the country's aviation industry, engaged as it is in the development and production of hydraulic components and systems.

The Bell Exploration and Development Corporation was formed in 1955 as a wholly-owned subsidiary for the purpose of demonstrating the utility of the Bell Model 47 helicopter for geologic and geodetic work in several western states. As a direct result of this activity, additional sales of commercial helicopters were made.

Bell Aircraft Supply Corporation continued to sell commercial helicopters and to provide spare helicopter parts for West Coast customers.

In Buffalo, a Commercial Products Department was established early in 1955. Before the year's end an electronic control system having wide and varied commercial application was developed and delivery of the first unit was made. Additional orders have been received from other customers for delivery this year. Several other products are also in the process of development.

First deliveries of jet engine nacelles for the important B-52 program were made to the Boeing Airplane Company in 1955. Also, substantial additional B-52 orders were received from Boeing late in the year which extend our deliveries well into 1957. Final nacelle deliveries for the Boeing B-47 bomber will be made to Boeing, Douglas and Lockheed in the Fall of 1956. We have been happy to play an important part in the highly successful B-47 program for the past seven years and are equally happy to continue a similar role on Boeing's important new long-range jet bomber, the B-52.

Some years ago we formed the Erie Insurance Company in order to have a proper vehicle which would permit us to extend insurance coverage to helicopter customers if this need should arise. Meanwhile, Erie was engaged in casualty and liability type insurance. In 1955 it became apparent that established insurance companies would fill any future helicopter needs and our original reasons for establishing Erie no longer existed. Consequently, the company's investment in Erie Insurance, $479,817, was sold in June, 1955, to the Equity Corporation for that amount.

Borrowings under our V-Loan Agreement, which had reached a peak of $34,000,000 four years ago, were completely paid off last June and as a result our interest expense for the year on borrowed capital was the lowest in more than five years. The mortgage on our Hurst, Texas, helicopter plant was reduced, according to schedule, to $1,250,000, half its original amount.

When our V-Loan expired last June 30 we concluded that because our future credit requirements, short of a national emergency, would be moderate they could be met through ordinary lines of bank credit which we established.

During January and February of this year, in order to help us meet usual early year tax and pension payments, we borrowed $4,000,000 under these credit arrangements.

Dividends of $3,268,077 were paid to stockholders in 1955. Employes received a total payroll of $99,700,000 and an additional amount of $70,000,000 was paid out for material, supplies and services.

Stockholders' equity rose more than $3,000,000 during the year and stood at $37,410,051 on December 31. Working capital was increased from $19,500,786 to $22,758,024 at year's end.

Our backlog at the end of the year totaled more than $246,000,000, consisting of (1) Government prime contracts for helicopters, guided missiles and research aircraft (2) orders from other Government prime contractors for component parts of airframe and weapons systems and (3) orders for commercial helicopters and commercial products manufactured

by our wholly-owned subsidiary companies. This backlog is, of course, subject to fluctuations which may result from changing Government requirements.

In continuing our efforts toward further stabilizing diversification into commercial work, we are limiting our attention to those fields which have a capability of converting to defense work in event of national emergency.

Webster B. Todd, who first was elected to the Board of Directors in 1948, has informed us that other business commitments make it impossible for him to stand for re-election this year and as a result you will find the name Albert Fink Milton replacing Mr. Todd's in the proxy material. The management of Bell Aircraft Corporation wishes to express deep appreciation to Mr. Todd for his services over the past eight years as a director and regrets his inability to continue to work with us.

To the directors and officers, and to all the executives and employes of the company and its subsidiaries, I would like to express thanks for their hard work and loyal efforts. Finally, we continue to believe further diversification into commercial product lines will mean greater stability of employment for our people and of income for our stockholders.

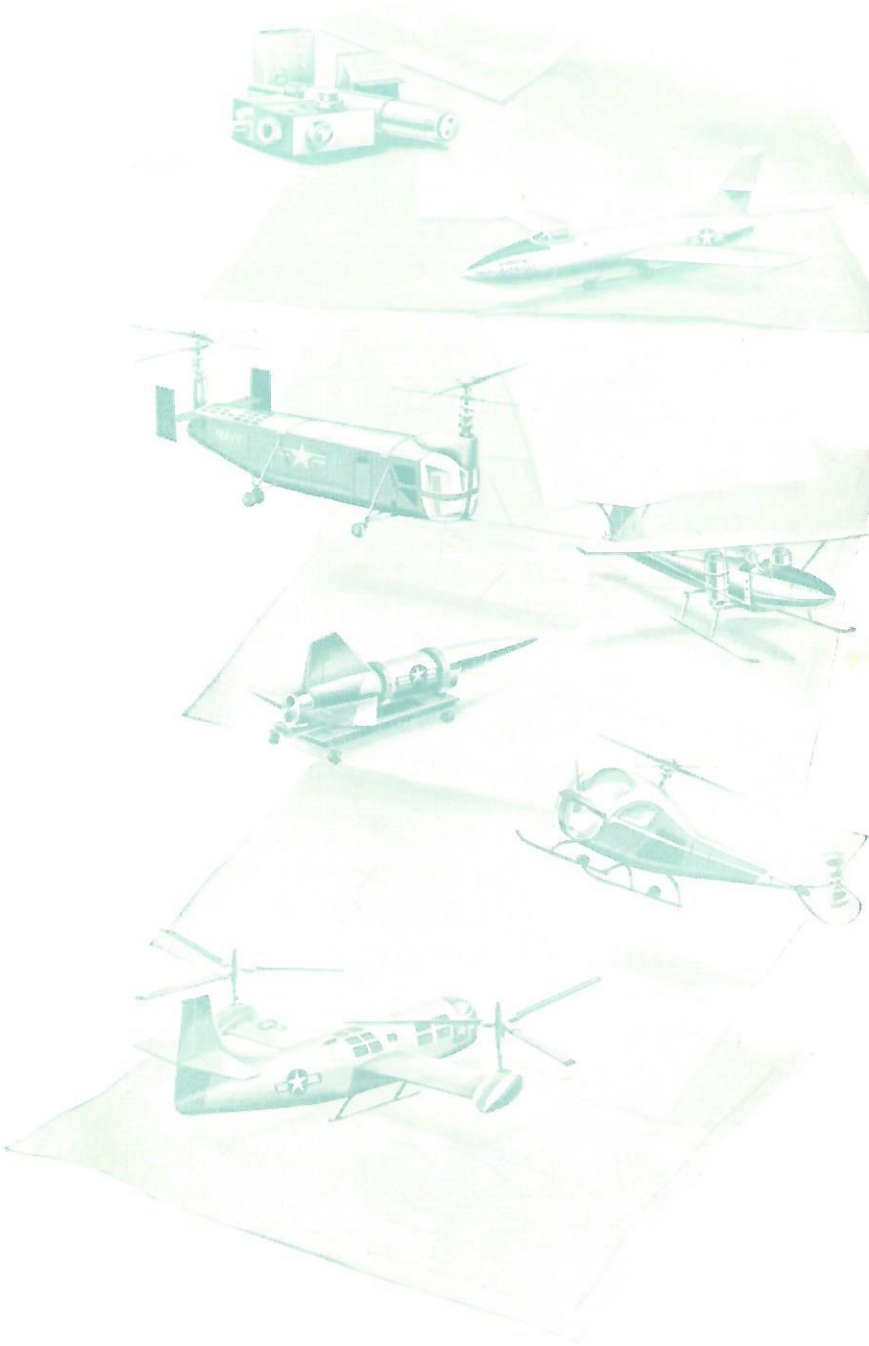
At the same time we are profoundly aware of our responsibility as an important segment of the National Defense Industry of our country and we will continue every effort to provide our share of defense weapons of the highest technical capabilities and the best quality at the lowest possible cost.

Respectfully submitted,

By Order of the Board of Directors

LAWRENCE D. BELL
President

March 16, 1956.



1955

FINANCIAL REVIEW

During 1955, the sales of Bell Aircraft Corporation amounted to $204,440,543, an increase of $18,794,429 over the volume of business recorded for the previous year.

This expanded sales activity is due, in part, to the inclusion of 12-months operations of the Wheelabrator Corporation in the consolidated statements for 1955, while only the operations subsequent to acquisition date, June 1, 1954, were included in the statements for 1954.

Income before taxes amounted to $12,014,482 and net income was $5,914,482 after provision of $6,100,000 for Federal income taxes. Per share earnings of $2.25 in 1955 and $2.47 in 1954 are based on outstanding shares of stock at year end.

In 1955, for the first time, Hourly Employes' Pension Plan payments were made into trusts to provide non-contributory retirement benefits. These payments amounted to $1,187,800 and of this amount $309,200 was attributable to past service benefits based on amortizing the cost of such benefits over a 30-year period.

In order to handle the growing volume of business and to provide modern, up-to-date machinery and equipment for the manufacture of complex and highly technical products, it was necessary during the year to expend company funds to add and improve facilities and equipment in the amount of $2,459,412 or 20.5 per cent of the income before provision for Federal taxes for the year.

Raw materials, supplies and work in progress inventories were valued at $67,153,767 on December 31. After applying unliquidated partial payments of $48,694,634 received under defense contracts, the net balance of such inventories was $18,459,133.

Current assets exceeded current liabilities by $22,758,024, resulting in a ratio of 1.9 to 1. Working capital in 1955 was increased $3,257,238 after allocation of funds for certain purposes.

These included $2,413,368 for additions to fixed assets; $46,044 for leasehold improvements and other deferred assets; $3,268,077 for dividends to stockholders; and $500,000 for a payment on the first mortgage on the Hurst, Texas plant.

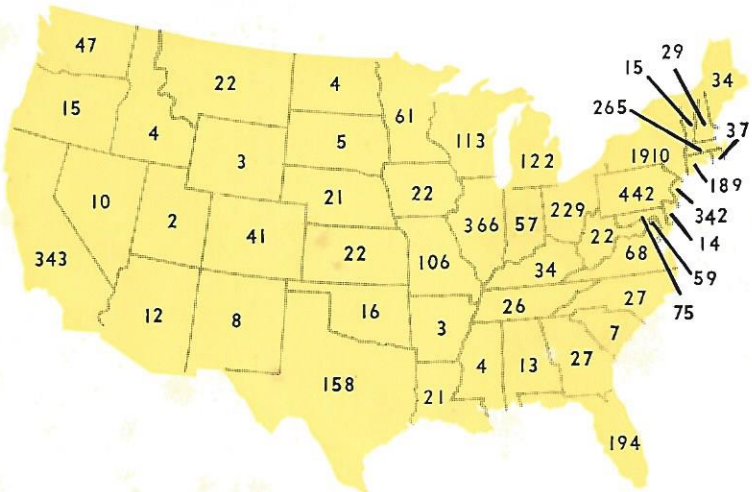
Work performed by the company during the year amounted to $192,290,000, of which $77,400,000 represented the cost of materials and supplies, $99,700,000 wages and salaries paid to employes, $9,275,000 Federal, state and local taxes, $5,915,000 net income.

In June, all outstanding borrowings under the V-Loan Agreement were repaid and the revolving V-Loan credit expired June 30. An open line of bank credit for $20,000,000 was subsequently established with several banks but it can be reported that operations were continued through the year without borrowing.

During the first few months of 1956, however, it was necessary to borrow $4,000,000 under this open line of bank credit to meet the usual large obligations, including tax and pension plan payments, which are prevalent at the beginning of a new year.

A substantial portion of 1955 sales is subject to the Renegotiation Act of 1951 and no provision has been made in the financial statements for the

GEOGRAPHICAL DISTRIBUTION OF STOCKHOLDERS

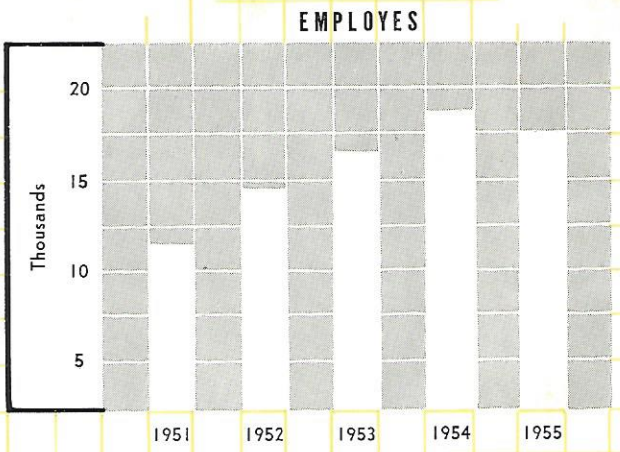


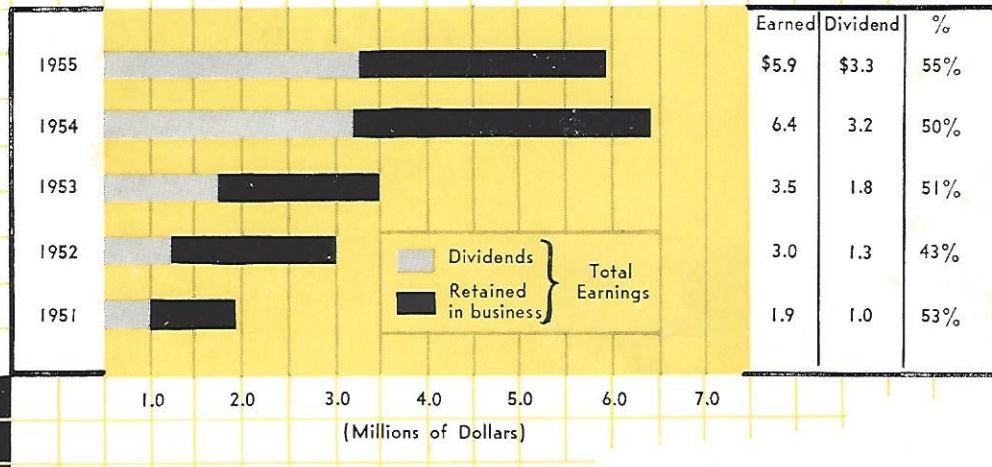
U. S.	5666
Foreign: Canada	9
Other	13
Total	5688

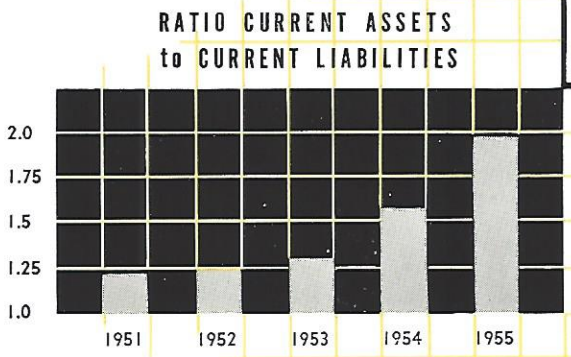
current year because no refund is anticipated. A final release was received from the Renegotiation Board for the year 1952, but such a release has not been received for 1953 and 1954. It is believed, however, that no refund will be necessary for these years.

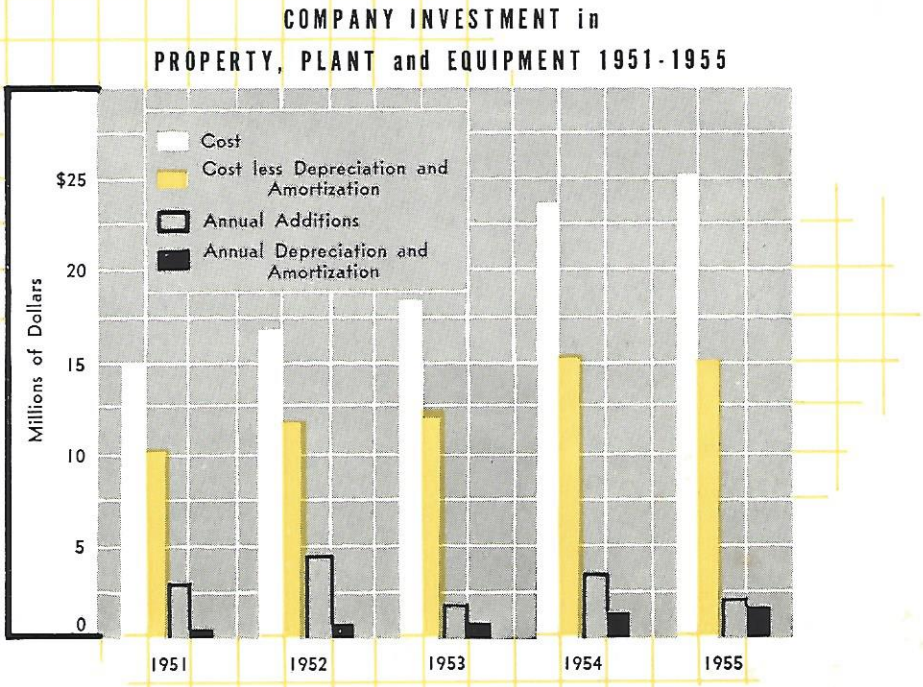
The company's entire investment of $479,817 in the Erie Insurance Company was sold to the Equity Corporation on June 3, 1955, for $479,817.

The Federal income tax return for 1952 has been examined by the Treasury Department, but final settlement has not been accomplished. The returns for 1953 and 1954 are subject to review and it is believed that the reserve for Federal taxes of $6,920,284 on December 31 is adequate to cover all liability of the company for Federal income and excess profits taxes.



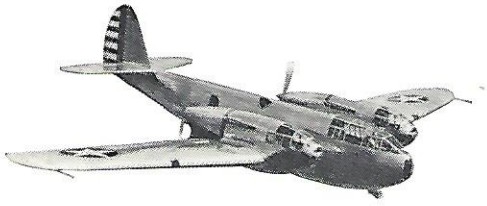




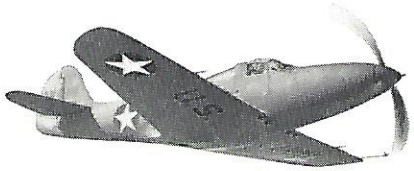


TOWARD NEW FRONTIERS

A TWENTIETH ANNIVERSARY APPRAISAL



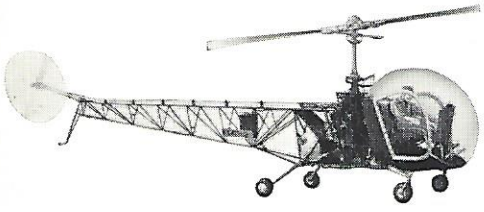
1937 **AIRACUDA**



1939 **P-39 AIRACOBRA**

1942 **P-59 AIRACOMET**

1944 **MODEL 30 HELICOPTER**



1946 **MODEL 47 HELICOPTER**

Twenty years of aeronautical design, development and production have established Bell Aircraft Corporation as one of the leaders in an industry which has become an integral part of the nation's economy.

Founded in July, 1935, in Buffalo, N. Y., by President Lawrence D. Bell, the company has earned a solid reputation for pioneering in the most advanced fields of aviation and some of its achievements are on the list of aviation "firsts".

First product of the design boards at a time when the company had less than 100 employes, working primarily on subcontracts for other aircraft firms, was the XFM-1 Airacuda, a twin-engine, pusher-type, multi-place fighter which pioneered a number of advanced ideas in plane building, including the now standard tricycle landing gear.

Next came the P-39 Airacobra, single-seat, hard-hitting interceptor which saw action in almost every World War II combat theater. It carried a 37 millimeter cannon in the hollow propeller hub, plus two 50 caliber and four 30 caliber machine guns.

More than 10,000 of these were delivered to the Army Air Forces before the P-39 was succeeded by the larger, faster, more powerful P-63 Kingcobra. By war's end, Bell had turned out more than 13,000 fighter planes and nearly 700 B-29 bombers and had operated manufacturing divisions in Buffalo, Marietta, Ga., and Burlington, Vt.

One of the most significant of the company's aviation "firsts" came in 1942 in the form of this country's first jet-propelled airplane, the P-59 Airacomet, designed, built and flown amidst the greatest secrecy at a time when few dreamed an airplane could fly without a propeller.

Bell has designed and built three of the nation's five so-called "X" aircraft, specialized flying laboratories each with a different scientific mission. These are the X-1, its sister ship the X-1A, and the X-2 and X-5. Technical data gathered from operations of these experimental planes have already been applied to the design of a number of present and future military aircraft.

In 1947, the X-1 became the first plane to fly faster than the speed of sound. Now in the Smithsonian Institution, along with the P-59, the X-1 was succeeded by the X-1A, which reached 1650 mph and an altitude of over 90,000 feet. These records still stand, but the Bell X-2, another rocket-powered ship, is designed to exceed both of these marks.

The X-5, which made its first flight in 1951, was equipped to vary the sweep of its wings in flight and was used to study the effect of wing sweepback on speed and aerodynamic characteristics.

Bell undertook to develop the helicopter as early as 1941 with its own finances and apart from the wartime production demands.

Five years later this aircraft was licensed by the Civil Aeronautics Administration as the world's first commercial helicopter and in 10 years Bell has produced more than 2,000 for military and commercial use and they have logged more than 2,000,000 flight hours. Today they are operating in 44 countries throughout the world.

Bell helicopters flown by U. S. military forces in Korea evacuated more than 15,000 wounded fighting men and civilians from front lines to field hospitals in minutes instead of hours, thus helping to reduce the combat mortality rate to an all time low.

In addition to improving its smaller military and commercial models, the company also has produced and delivered in quantity its first tandem-rotored helicopter, the Navy HSL-1.

Planned product diversification after the war moved the company out of the mass production airplane field and permitted emphasis on research and development with constantly increasing activity in guided missiles, rocket propulsion, electronics and servomechanisms.

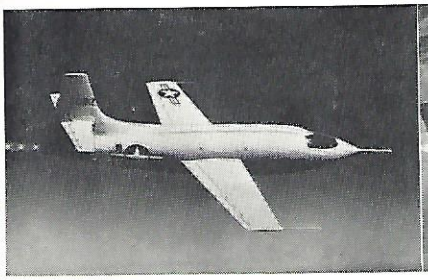
Bell has been actively engaged in several guided missile projects, most prominent of which is the GAM-63 Rascal, an air-to-surface guided missile, for which the company has complete weapons system responsibility.

The company also is designing and building components for other aircraft firms, including rocket motors for the Army's surface-to-air Nike guided missile and automatic control devices for the Navy's Regulus missile.

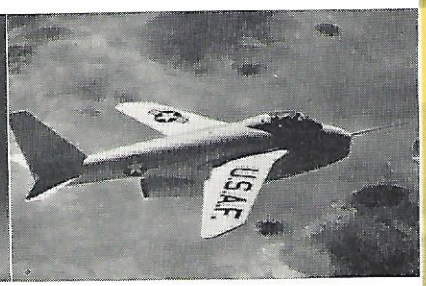
Apart from this activity, Bell also has ventured into another and relatively unexplored area of flight with two radically different types of aircraft. The XV-3, developed for the Army, is a tilting-rotor convertiplane which uses its two main rotors like a helicopter for vertical lift and tilts them forward for conventional flight. The company also developed, built and flew successfully the nation's first jet-powered vertical-rising (VTOL) airplane and newer models are now in work.

Thus Bell has made important contributions to the progress of aviation and the security of the nation during the last 20 years, helping to conceive and develop new departures in man-made flight and to improve on the old.

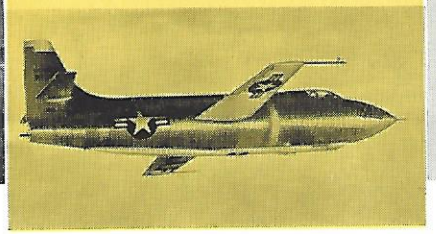
1953 HSL-1



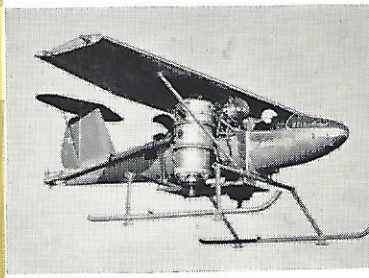
1947 X-1



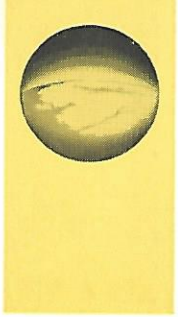
1951 X-5



1953 X-1A



1954 VTOL



1955

OPERATING REVIEW

Emphasis on the world-wide commercial helicopter market and broadening activity in the rocket propulsion, electronics and servomechanisms fields highlighted the company's operations during 1955.

In the Niagara Frontier Division, which is concerned primarily with Government work in several categories, progress continued in the operational refinement of the GAM-63 Rascal air-to-surface guided missile weapons system for the Air Force.

An aircraft carrier all-weather landing system, developed by the company for the Navy's Bureau of Ships, was improved through actual landing control of land-based aircraft to the point where it will be installed aboard an aircraft carrier for sea tests.

Recognizing the advantages of this system for flight operations when visibility and ceiling are zero-zero, the Air Force contracted with Bell for a series of tests with F-86 and B-47 aircraft. The Bell system was used in conjunction with standard Instrument Landing System receivers in these aircraft. The system satisfactorily met Air Force requirements and the program is continuing.

Another electronic development for the Navy, the helicopter flight simulator, was delivered to the Naval Air Station in Pensacola for training helicopter pilots.

Official announcement of the mission of the rocket-powered Bell X-2 came in August, 1955, when the Air Force disclosed the research airplane was at Edwards Air Force Base, Calif., being prepared for its initial power flights to study the effect of thermal dynamic heating on airplanes. It made its first powered flight in November.

Successor to the Bell X-1A, the X-2 has been designed to surpass the record of 1,650 miles an hour and 90,000-foot altitude credited to that Bell airplane. To counteract the high temperatures associated with high speed flight, the X-2 is constructed of stainless steel and K-monel metal.

As an outgrowth of the company's work with Rascal, orders were received from other aircraft firms to supply guidance components and rocket power plants for missiles and missile systems.

During the year the company also received study contracts for work on new guided missiles and a contract for a new jet-propelled VTOL test airplane.

Deliveries of the Bell-developed proportional control system to Chance Vought Aircraft Company continued at an increased pace for installation in the Navy's Regulus missile and the contract calls for greater volume this year.

At the beginning of 1955, a new Commercial Products Department was formed to develop several commercial applications of electronic systems that were outgrowths of our technical endeavors.

Before year's end, delivery was made of the first units of one of these systems and additional substantial orders received from other customers for 1956 delivery.

XH-40 Powered with Lycoming XT-53 shaft turbine engine, this Army utility helicopter can match climbing performance of World War II fighters.

47H-1 Latest of Bell's commercial helicopters, the Bellairus, with streamlined lines and customized interior, won quick favor among operators.

Production of these units has begun as has development of other applications for these electronic systems.

This type of business appears sufficiently promising to justify formation of a new subsidiary company to specialize in this and other allied commercial development work, sales and production, entirely separated from our defense work.

The Scoville Manufacturing Company, of Waterbury, Conn., began production of a Bell-developed rotary fastener under license.

Production of inboard and outboard jet engine nacelles for the huge B-52 Stratofortress, built by Boeing Airplane Company, was begun in 1955 and the company continued delivery of inboard and outboard power packs for Boeing's B-47 bomber.

The four twin-engine nacelles for the B-52 carry eight Pratt and Whitney J-57 turbojet engines, each with more than twice the thrust of those used on the B-47. The nacelles are constructed of titanium, aluminum, stainless steel and magnesium.

In addition to supplying the entire rocket powerplant system for the GAM-63, the company continued to produce liquid-propellant ceramic rocket thrust chambers for the Army's Nike surface-to-air missile, built by Douglas Aircraft Company.

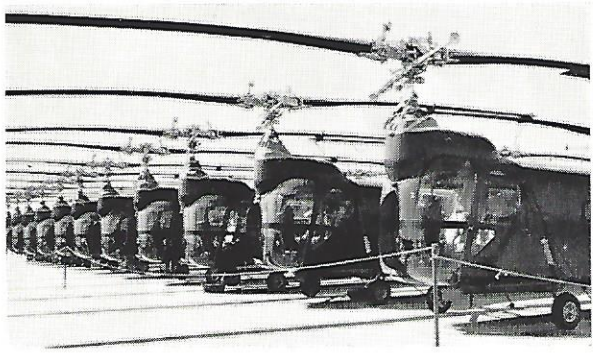
The company was identified in 1955 as one of seven contractors developing and manufacturing major sub-systems for the B-58 supersonic bomber which the Convair Division of General Dynamics is building.

A strong position in the foreign and domestic commercial helicopter market was maintained by the company during 1955 when the Helicopter Division in Texas topped all previous sales records for the fourth consecutive year.

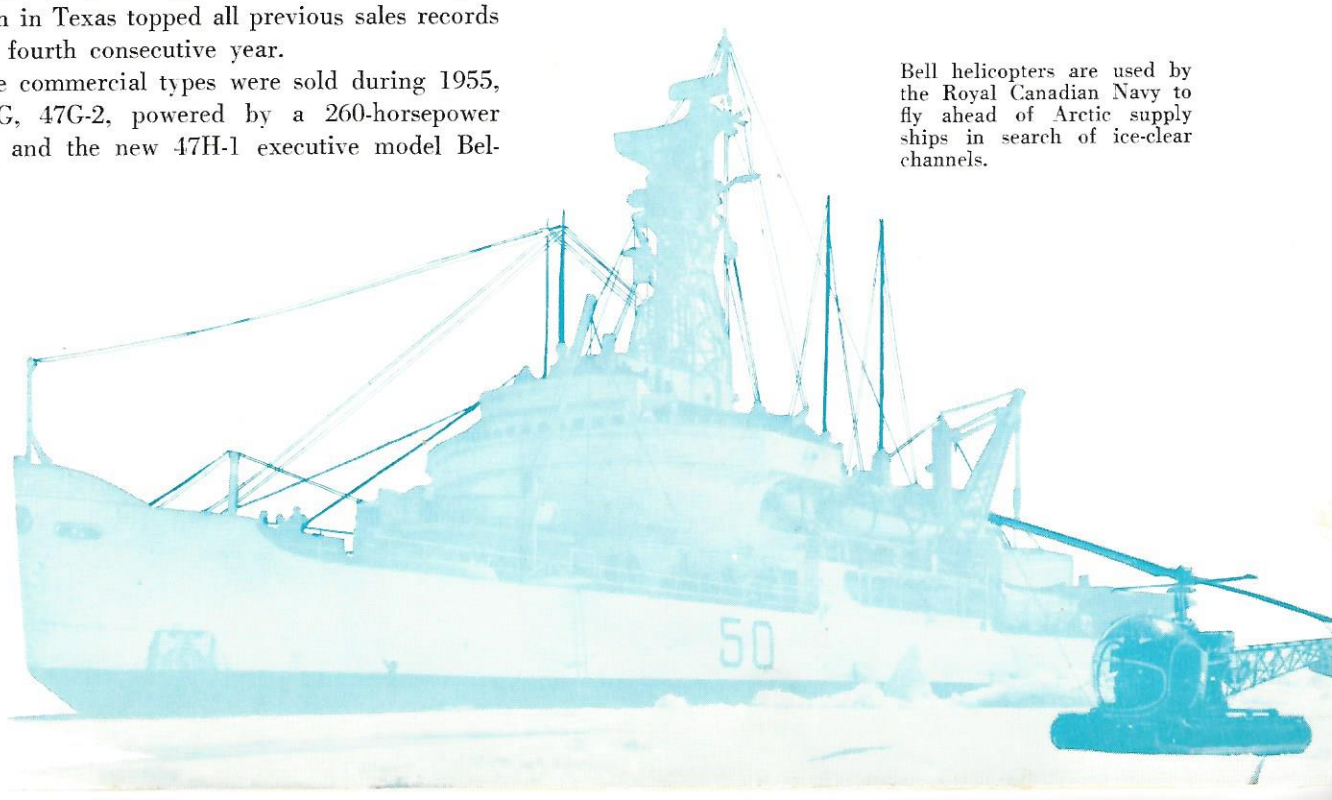
Three commercial types were sold during 1955, the 47G, 47G-2, powered by a 260-horsepower engine, and the new 47H-1 executive model Bel-

47J Licensing of this new model, which carries four persons, will give company's rotary-wing line helicopter for every purpose.

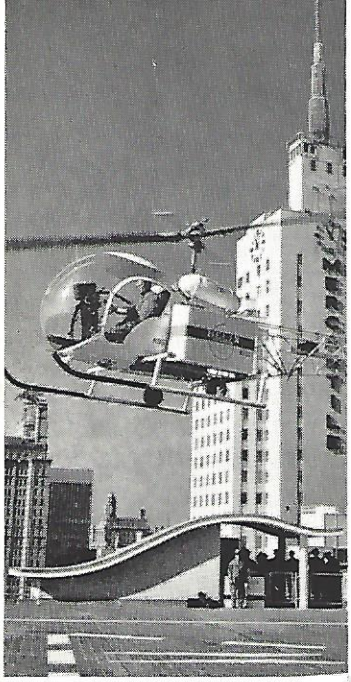
XV-3 Designed to take off as a helicopter, the Army convertiplane flies as conventional aircraft by tilting rotors forward, eliminates runways.



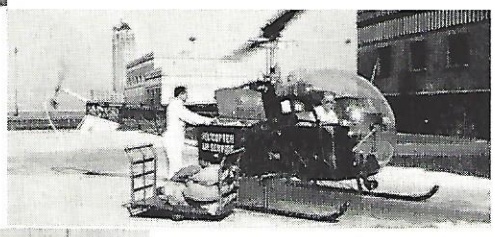
HSL-1 Built for the U.S. Navy, this twin-rotor helicopter is controlled in flight by Bell-developed autopilot system.



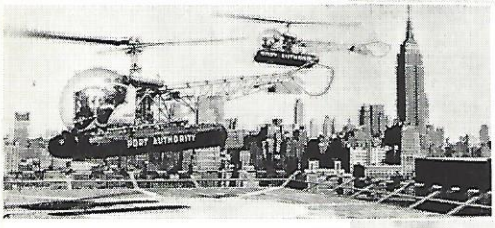
Bell helicopters are used by the Royal Canadian Navy to fly ahead of Arctic supply ships in search of ice-clear channels.



Expansion of helicopter passenger and freight operations marked 1955. This one serves Dallas and Fort Worth area.



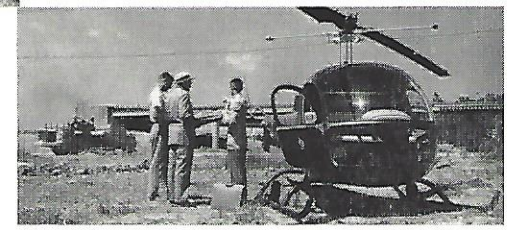
Helicopter Air Service has flown more than two million accident-free hours in carrying air mail in Chicago, suburbs.



Port of New York Authority saves valuable executive hours by providing quick transportation throughout farflung operations.

Military is making increased use of Bell helicopters for observation, liaison, evacuation and troop movement control.

Agricultural role of Bell rotary-wing products continues to save time, money for farmers and ranchers with variety of chores.



Helicopter mobility is proving worth for large construction jobs, permits quick, close observation of progress.

lairus, which incorporates a customized interior and streamlined fuselage styling. All are designed to carry three passengers.

Assignments given their Bell helicopters by some of the new operators included aerial uranium prospecting in Colorado, offshore oil operations in the Gulf of Mexico and executive transportation between dispersed industrial facilities.

In the latter category, for example, Radio Materials Corporation, of Chicago, foresees its 47H-1 saving 1000 executive working hours a year previously lost in ground travel between plants.

Largest single commercial delivery went to Helicopter Air Service, Inc., which replaced the original fleet of six helicopters which began delivering air mail to Chicago and 50 suburbs in 1949.

Indication that 1956 will be another record-breaking commercial helicopter sales year is reflected in the backlog of nearly $5,500,000, representing unfilled orders for 120 helicopters, largest in the history of the company's rotary wing operations.

One third of this backlog is for the new four-place Model 47J which is expected to be certificated by the Civil Aeronautics Administration soon.

Equipped with a 260-horsepower engine, the 47J offers distinctive features available in no other helicopter. With the aid of a single tool, one man can convert the cabin to any of five basic arrangements for passengers, passengers and cargo or for the transportation of two litter patients, a medical attendant and the pilot.

The two foreign manufacturers licensed to build Model 47 helicopters made progress in 1955. Costruzioni Aeronautiche Giovanni Agusta of Cascina Costa, Italy, delivered a substantial quantity of Model 47G helicopters as well as its first three Model 47G-2s.

Daiichi Bussan Kaisha Ltd. of Tokyo, which is also licensed to build both these models, prepared for its first export sales from Japan.

Military production, research and development contracts also retained their dominant position in the Helicopter Division throughout 1955.

Volume production of the tandem-rotor Navy HSL-1 helicopter continued and a modified version is undergoing additional test evaluation at the Navy's Panama City, Fla., base.

Other Navy production contracts include the HTL-6 with hydraulic boost control and the new four-place HUL-1, a lightweight utility helicopter.

X-2 rocket-powered supersonic laboratory airplane is being prepared for aerodynamic heating studies at Edwards Air Force Base.

Deliveries of the HTL-6 extend into 1956 and HUL-1 deliveries will begin this year.

An Army H-13G production contract was completed along with testing of the new H-13H and H-13F. The H-13H is the Army version of the commercial Model 47G-2 and the H-13F is a research rotorcraft with a gas turbine engine.

The company has received an Army contract for 84 H-13H helicopters, equipped with a 260-horsepower engine, with deliveries scheduled to begin in December of this year and continue through September, 1957.

The Army XV-3 tilting-rotor type convertiplane was unveiled in February and test flown in helicopter configuration six months later.

In March, the Army awarded a contract to the company to develop and build a utility helicopter. This award followed an industry-wide competition.

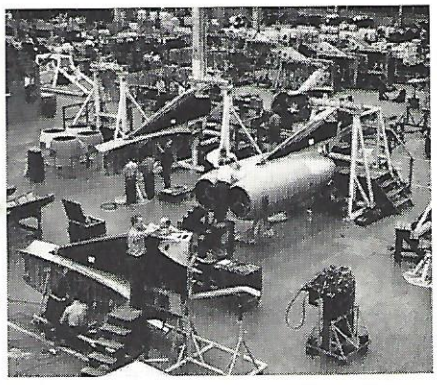
Under this contract, the Helicopter Division designed the new turbine-powered Army XH-40 and the first flight article is now under construction.

The XH-40 will incorporate many features including low maintenance and ease of maintenance, a substantial increase in payload over any other utility-type helicopter in service now and the ability to use a wide range of fuels including JP-4, kerosene, aviation and all-purpose automotive fuels.

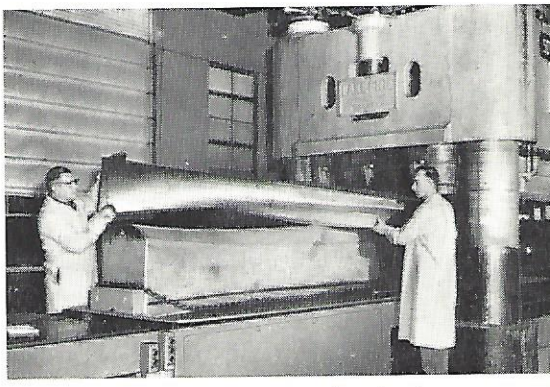
Use of titanium as an aircraft metal received considerable attention from manufacturing personnel during the year and, as a result, manufacturing techniques new to the industry were evolved.

One of the innovations devised by production engineers was to install electric resistance heaters in dies to maintain the temperamental metal at the precise working temperature required. The company initiated the first process in the industry to de-scale titanium parts on a production basis.

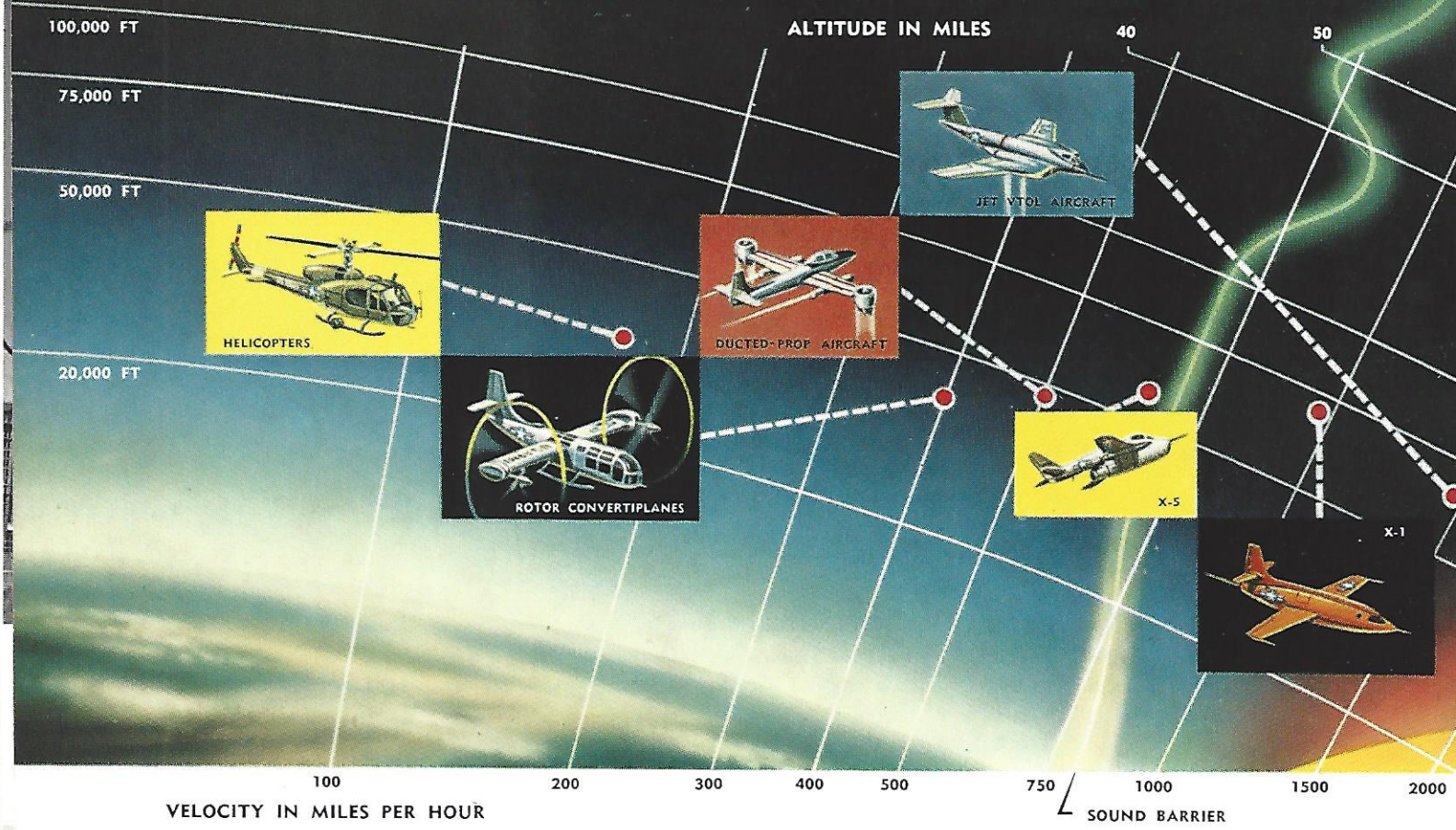
Bell-designed rocket engines are produced by company to power Army's Nike anti-aircraft guided missile.



Jet engine nacelles are built for giant Boeing B-52 bomber. Company also provides nacelles for B-47.



Specially-developed induction heating unit built into the die is used to press form temperamental titanium.



TOWARD NEW FRONTIERS

Vertical-Rising Aircraft

Two forces oppose the flight of any aircraft. One is the natural attraction of gravity. The other is the retarding force of air resistance known as drag.

Conventional airplanes overcome drag by the use of rapidly-revolving propellers, turbo jet engines or a combination of both. This propulsion produces forward motion which, in turn, provides the necessary lift to overcome the force of gravity.

The helicopter was the first heavier-than-air vehicle to change this pattern. Substituting a rotor for the wing, the helicopter literally pulls itself upward and gains forward motion by tilting the rotor plane.

The rotary-wing convertiplane, represented by Bell Aircraft's XV-3, takes off and lands in the same manner as the helicopter, but for forward flight the rotors are tilted forward to assume the function of the conventional propeller. Lift is transferred to the wing and fuselage.

Another type of vertical-rising aircraft, the ducted-propeller version, employs a duct surrounding the propeller to increase propeller thrust. Vertical lift is achieved by directing the propeller blast downward.

The jet-powered VTOL, with which Bell pioneered, uses a vertical jet thrust for takeoff and landing, converting to forward thrust after it is airborne. The vertijet has the speed potential of conventional jet airplanes.

Beyond the Speed of Sound

As recently as a dozen years ago, aviation progress came up against a barrier which appeared to place a very definite limitation on the speed of aircraft.

Pilots whose planes approached the speed of sound (760 miles an hour at sea level) in dives reported they experienced severe buffeting, serious control problems and in some instances the airplanes were destroyed. This was the sound barrier.

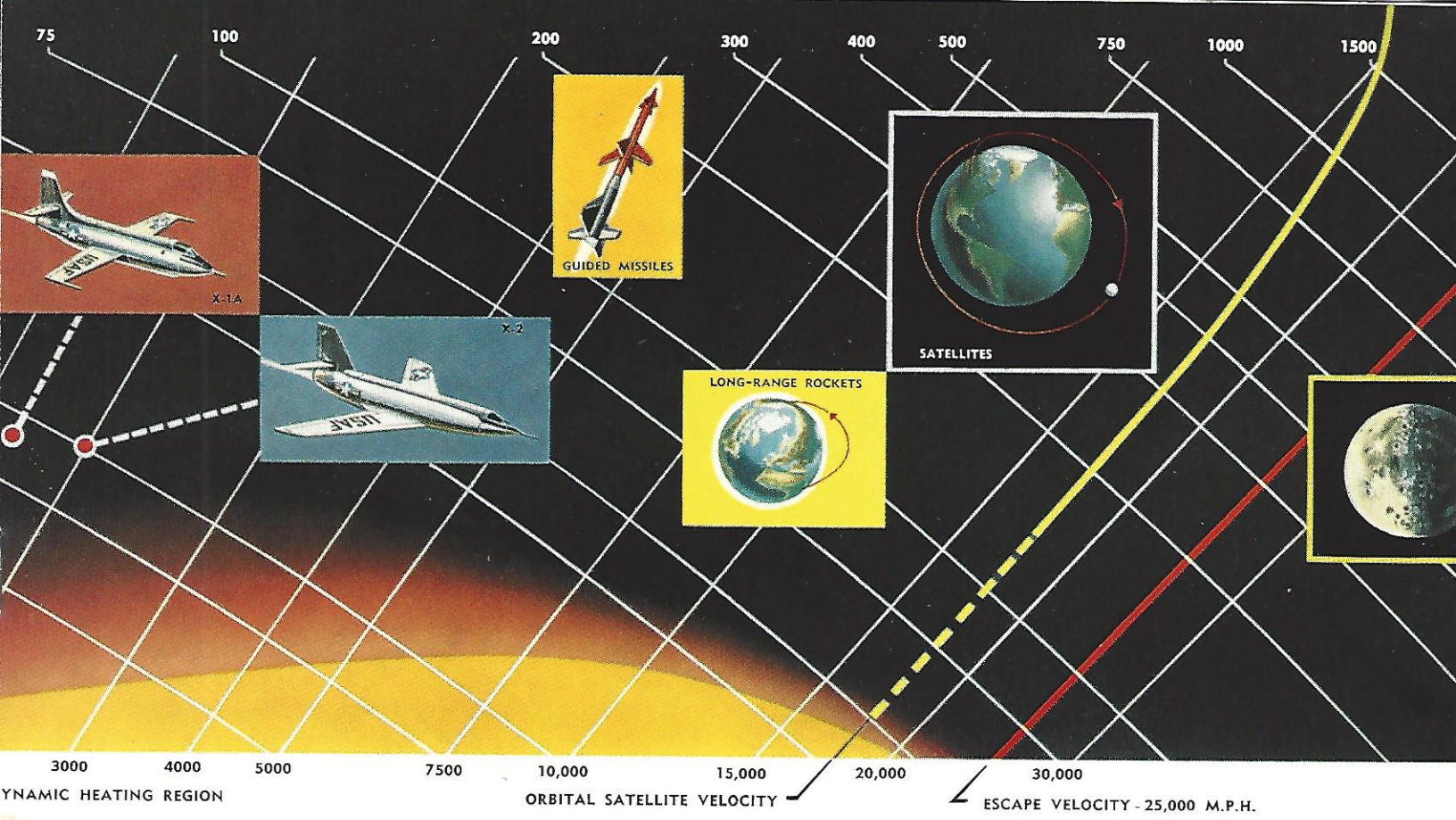
Wind tunnels at that time were unable to cope with sonic and supersonic phenomena and other methods of probing it were unsatisfactory.

Solution was the Bell X-1 supersonic research airplane powered by a rocket engine which enabled it to attain speeds even beyond the speed of sound.

Successor to the X-1, the larger and more powerful X-1A, flew 1,650 miles an hour, two and one-half times the speed of sound, in 1953 and the following year it reached an altitude of 90,000 feet.

As a result of the aeronautical contributions of these two airplanes, engineers were able to predict accurately the flight characteristics and anticipate the stresses imposed upon tactical aircraft at these high speeds.

The supersonic pioneers who made these achievements possible even then were taking confident strides toward a newer and more exciting frontier, outer space.



Myth of the Thermal Barrier

While it is recognized the so-called sound barrier occupies a clearly-defined position in speed ranges, engineering advances have discounted the existence of a comparable thermal barrier.

It is agreed, however, that aerodynamic heating does constitute a growing deterrent to higher aircraft speeds.

The red shading in the chart above shows the speed and altitude range of the aerodynamic heating problem and the orange area indicates the probable speed limits imposed by present-day aircraft materials and design.

When an airplane or a missile flies faster than the speed of sound, the air ahead has no warning of the approach and does not have time to get out of the way.

This continuing collision with the air molecules brings about an increase in the temperature of the metal covering of the plane's wings and fuselage.

The Bell X-2, first airplane designed and built to explore the regions of aerodynamic heating, is constructed of stainless steel and a nickel-copper alloy to overcome the threat of structural failure brought on by these weakening high temperatures.

Flights of the X-2 will produce essential information with which the necessary design and material changes can be incorporated in ultrasonic aircraft and missiles of the future to combat the thermal problem.

Satellites and Space Flight

Man-made satellites soon will be circling the earth, providing a wealth of scientific data to permit more accurate prediction and regulation of life on this planet.

They will fly an elliptical or circular path 200 to 1,500 miles out from the earth and their speed of approximately 18,000 miles an hour (see chart) will give needed centrifugal force to balance out the pull of the earth's gravity, allowing them to stay on course for weeks and perhaps months before slowing down and falling back into the heavier atmosphere.

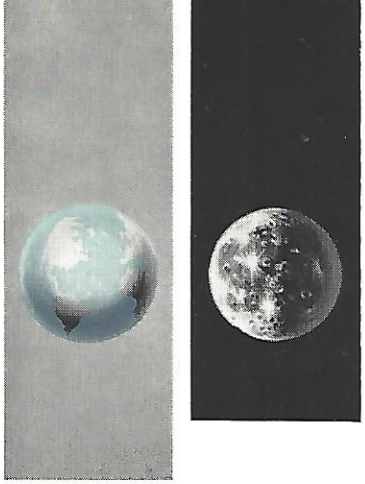
From these space frontiers the earth satellite vehicles will gather and transmit vital data to penetrate the mysteries of weather, outer space and the earth itself.

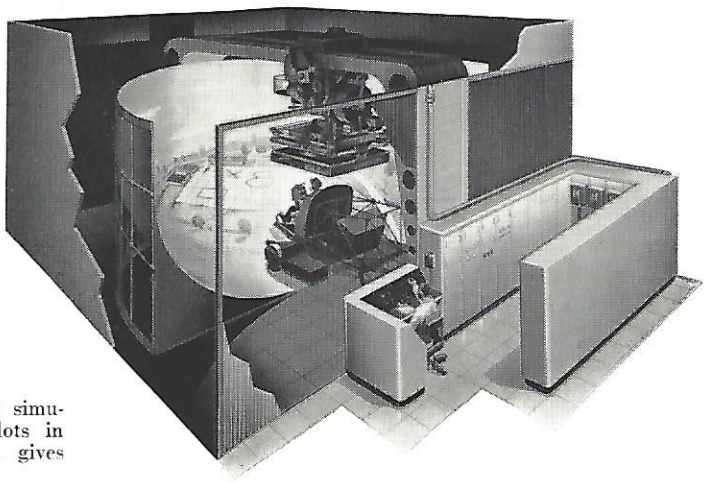
Project Vanguard will launch the first of the satellites in 1957 or 1958, the International Geophysical Year.

From the satellites will come the next major step, rocket-propelled flight into distant space.

Inter-planetary vehicles will have to reach an "escape" velocity of 25,000 miles an hour to free them completely from the earth's gravity, as shown on chart.

Even before these much-heralded trips to Mars and the moon, however, will come the rocket-powered aircraft carrying their human cargo across continents and oceans at speeds up to 12,000 miles an hour and altitudes up to 35 miles.





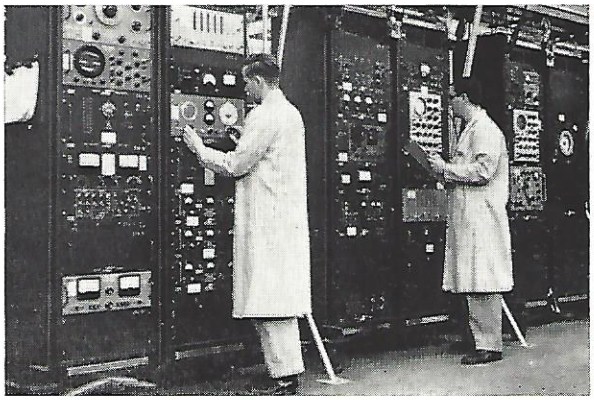
Artist's conception of helicopter flight simulator built by Bell to train Navy pilots in rotary-wing flight. Projection system gives visual illusion of movement.

ELECTRONICS AND SERVOMECHANISMS

Refinement or development of several electronic components and systems with both military and commercial applications highlighted the activity of the company's electronics engineers during 1955.

Developed with company funds, an ultra-high frequency command control link receiver was delivered to another aircraft manufacturer for installation in a guided missile and other applications now are being explored.

The receiver is superior to others previously available in that it can withstand the extreme temperatures, vibration and shock to which missile components are normally subjected and still perform efficiently.



Bell-designed electronics testing equipment is used to monitor missile guidance and telemetering equipment after installation in the airframe.

Simplification of design, one of the objectives toward which this department constantly is working, contributes to the command receiver's reliability.

Work continued on the Bell-developed aircraft landing system which will take over control from the pilot and direct the airplane to touchdown on a runway or an aircraft carrier deck under zero-zero flight conditions.

In addition to determining the altitude, speed and distance from touchdown of an approaching aircraft, the complex electronic device also anticipates the roll and pitch of the carrier flight deck. If conditions are not right, the plane gets an automatic wave off and is sent around for another approach.

This system differs from the conventional Instrument Landing System and the Ground Control Approach System in that the pilot is not required to land the aircraft himself when it is in position over the runway.

Employing digital techniques similar to those used in general purpose electronic computers, our electronics engineers have produced ground telemetering equipment with an unusual degree of accuracy.

Development of the proportional control system used in the Navy's Regulus missile also was a responsibility of our electronics engineers and delivery of this system to Chance Vought continued throughout the year.

Whereas missiles are generally one-way expendable vehicles, the electronic remote control system supplied to Chance Vought allows Regulus missiles to be recovered. These missiles can be flown on missions and landed repeatedly.

According to Chance Vought, this recoverable version of Regulus is also used in training Navy crews in the use of this weapon and "permits important cost savings which would not be realized if a missile were expended at each firing."

Regulus is the Navy's first operational offensive guided missile and our system has been used to launch it from submarines, carriers, cruisers and shore installations.

One Regulus missile has been tested as many as 15 times and landed each time by the Bell system without damage. Several thousand controlled flights have been made and this system has reduced the number of missiles needed in the test program by about 75 per cent.

The Bell system controls the missile from the time of launching from either a mobile ground station or from an airborne station, called a pilot airplane.

Any test phase or flight pattern can be controlled and operation of the landing gear (used only on test missiles), fuel transfer, brakes and other operations can be controlled just as if the missile were inhabited. Control is interchangeable as desired between the ground station and airborne station.

Transistor applications to replace vacuum tubes is undergoing continuous study in the department, as well as refinements in the Rascal guidance system aimed at greater reliability as well as simplification and consequently greater ease of field maintenance and operation.

Paralleling closely the company's electronic effort was the design, development and testing of precision servomechanisms control and instrument systems for a wide range of applications.

Among these were the control of fixed-wing aircraft, the guidance of pilotless missiles, the stabilization and control of helicopters and the automation of industrial equipment.

For the Special Devices Center of the Office of Naval Research, the company's servomechanisms engineers built a device to help train helicopter pilots without leaving the ground.

The simulator-trainer employs a single brilliant light source to project buildings, trees, roads and a concrete landing strip on a panoramic screen to give a realistic illusion of flight.

Further realism is achieved with the introduction of engine and rotor sounds, rough air and actual control forces. The pilot-trainee gets his instruction in a replica of a Bell Model 47 helicopter cabin, complete with standard controls and instruments.

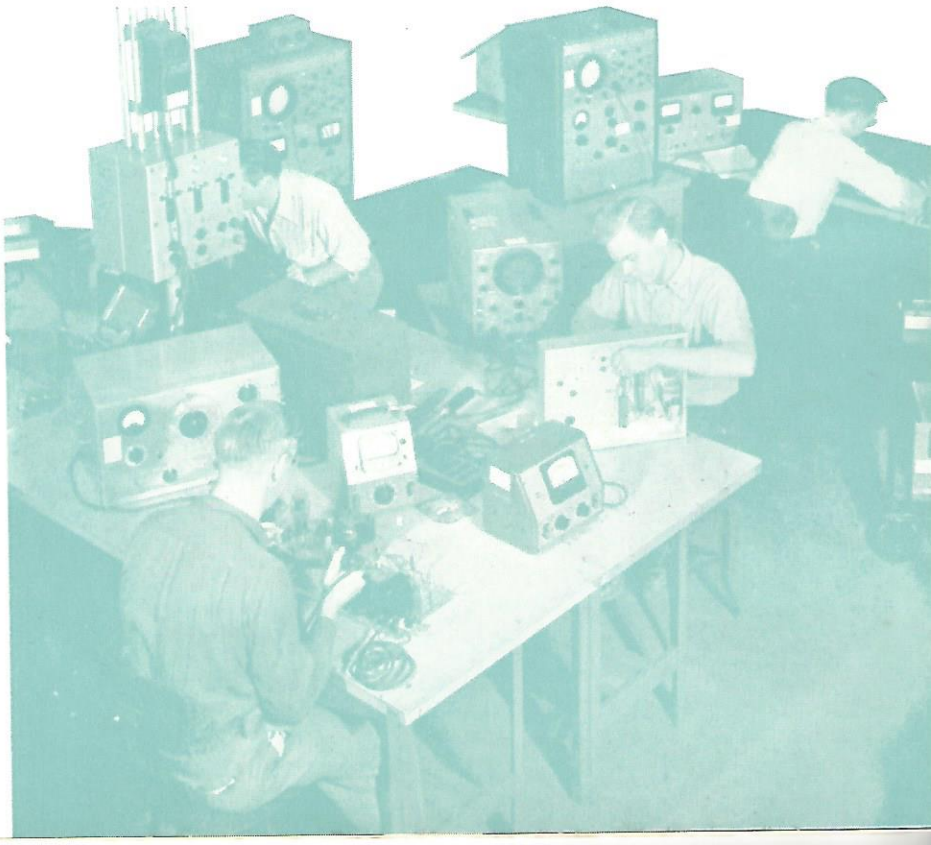
During the year, the servomechanisms section also continued the testing and refinement of a multi-axis inertial guidance system which permits the course to be pre-set in a pilotless or piloted aircraft before launch and holds it on course during flight.

As an integral part of the inertial guidance system, Bell engineers have developed an accelerometer integrater which determines the rate of acceleration and feeds it into the inertial guidance system to indicate the exact position of the aircraft.

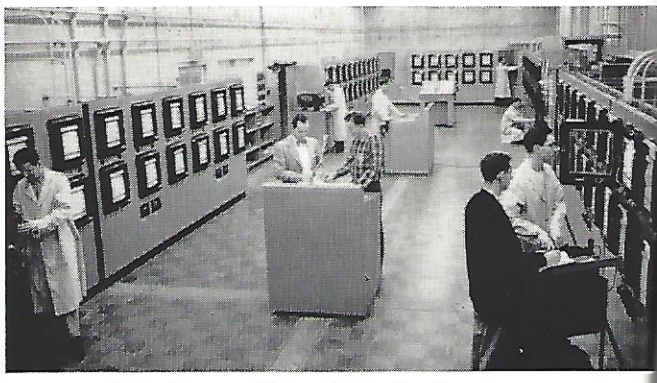
High-precision work on servo valves has become so exacting the department has installed both optical and electronic measuring devices to control critical tolerances.

Batteries of analogue computers are used by the servo engineers to flight test missiles in the laboratories, with continuous recording equipment providing an exact record of the performance of the flight control surfaces in response to simulated external forces acting upon them.

Design evaluation laboratories check out electronics components to insure their dependable operation in guided missiles, aircraft.



As many as 40 rocket engine runs a day are conducted in test cells at the Wheatfield Plant. Shown here is a double run, with company's main plant in background.



Recorders, oscillographs and other instrumentation are used extensively to provide permanent record of many parameters of rocket engine testing operations.

ROCKET PROPULSION

Proved performance of Bell-designed rocket power plants and the demonstrated ability to effect production of these engines on an assembly-line basis have added to the stature of the company as a leader in the field of rocket propulsion.

As the result of an aggressive research and development program, constantly improved rocket propulsion designs have been developed by Bell engineers and new methods devised for manufacturing rocket engines and their components.

During 1955, production responsibility was transferred from engineering to manufacturing for rocket engines for the Air Force GAM-63 Rascal air-to-surface guided missile and for the Army Nike surface-to-air missile.

During that period, Bell consolidated its position as a liquid rocket engine manufacturer with both military and industry customers and earned recognition as a prime source of rocket engines powered by acid and gasoline propellants.

Special concrete and steel reinforced test cells permit engineers to make direct visual check of rocket engine runs.

For the Rascal missile, Bell builds the complete power plant, including the rocket thrust chambers, propellant valves and the turbine pump.

Development was completed of a liquid propellant thrust chamber constructed entirely of aluminum alloy, important in defense planning because it eliminates the need for using strategically scarce metals, such as some grades of stainless steel.

Work has been carried on with other types of chambers delivering as high as 15,000 pounds thrust and this development program will be extended into higher thrust ranges.

Bell entered the rocket propulsion field in 1945 with the design of the X-1, the world's first supersonic airplane, which was powered by a 6,000-pound thrust engine.

Rocket engine development is carried on at two facilities, the company's main plant adjacent to the Niagara Falls, N. Y., airport, where 30 test cells are in operation, and the nearby Bell Test Center.

Since the inception of this phase of the company's operations, rocket chamber and engine tests numbering in the tens of thousands have been conducted with a variety of fuels and oxidizers and there have been as many as 40 runs a day.

During the last 10 years, Bell rocket engineers have worked with practically every known variety of liquid rocket propellant to evaluate combustion stability, thrust and overall engine performance.

These have included liquid oxygen, gasoline, ethyl alcohol, JP-4 jet engine fuel, white and red fuming nitric acid and hydrogen peroxide.

Bell-developed engines are now operating so closely to their practical efficiency that experimentation is continuing with other types of propellants to improve performance.

Since Bell initiated its rocket propulsion activities in 1945, engineering personnel engaged in this area of the company's research and development programs has multiplied nearly seven times until now there are about 550 persons in this section, almost 200 of whom are graduate engineers.

Altitudes up to 100,000 feet and temperatures up to 200 degrees Fahrenheit can be obtained in these walk-in chambers in company's Mechanical Equipment Laboratory.

ENGINEERING LABORATORIES

Technical and consultive support of the various Engineering and Manufacturing operations is provided by the company's well equipped Engineering Laboratories.

Function of this department is to conduct tests and studies for the purpose of resolving or eliminating research and development problems and to anticipate manufacturing difficulties in the design stage in order to reduce costs.

During 1955 considerable laboratory study and experimentation was given to eliminating or controlling corrosive qualities of certain rocket engine oxidizers which produced serious engine malfunction.

After isolating the factors causing the corrosion, the engineers defined a family of additives which disposed of the problem, thus contributing to the company's rocket development program.

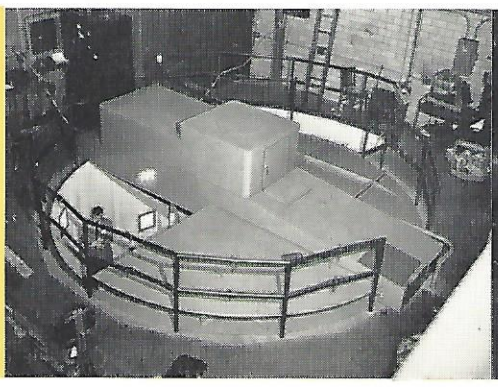
Activity in an entirely different area was the redesign of conventional motion picture cameras to permit a continuous film recording of a radarscope in a guided missile carrier aircraft to provide a record of flight testing operations.

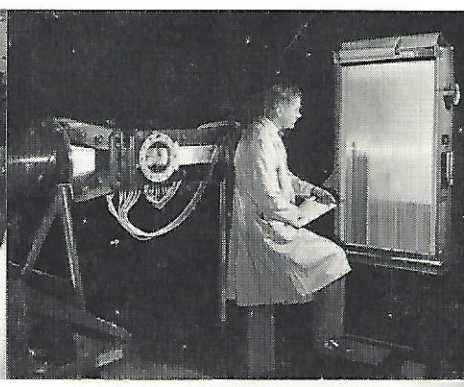
The newest type altitude chamber, installed during 1955, can reproduce atmospheric conditions up to 100,000 feet, temperatures as high as plus 200 degrees Fahrenheit and as low as minus 100 degrees and relative humidity up to 95 per cent.

A large shielded enclosure also was installed last year to check out complete guided missiles and large electronic components to isolate and eliminate undesirable electrical radiation. Bell's GAM-63 Rascal currently is undergoing tests in this area.

Guided missile components are tested in huge centrifuge to determine ability to withstand high gravitational stresses. (Photo at left)

Airframe configurations are evaluated in laboratory wind tunnel which can produce wind velocities up to Mach 4. (Photo at right)





1955

SUBSIDIARIES

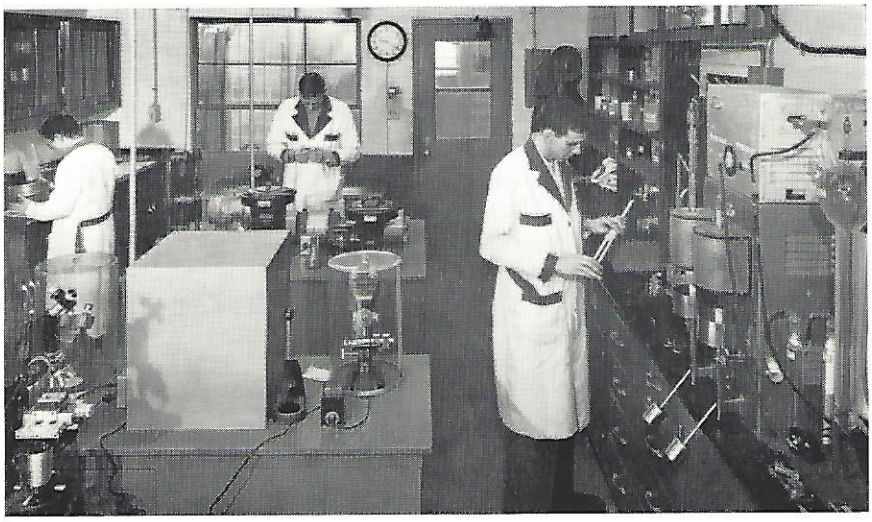
Wheelabrator Corporation

Wheelabrator Corporation, which became a Bell Aircraft subsidiary in June, 1954, began 1955 with an anticipated sales increase of 10 per cent, but instead emerged with the second best sales year in its history, an increase of 30 per cent over the previous year.

Founded in 1908, the firm manufactures blast cleaning equipment and abrasive materials used in this equipment, dust and fume control installations and foundry equipment.

During 1955, Wheelabrator added 50 per cent more manufacturing capacity to the steel shot plant which was built in 1953 adjacent to the company's principal facilities at Mishawaka, Indiana. This product line of steel shot is marketed and used as abrasive material in the various Wheelabrator machines. Still further steel shot product expansion is scheduled for 1956.

Increased sales have come in part from the introduction of an angular steel abrasive, known to the trade as Steelettes, used for etching metal surfaces preparatory to coating, plating, bonding, enameling or metalizing. Further acceptance of this new product is expected.



High quality of steel shot abrasive manufactured by Wheelabrator Corporation is maintained through constant product checks in this laboratory.

In addition to its domestic customers, which include the foundry, automotive and steel industries, Wheelabrator also enlarged its foreign markets. One of its orders for equipment was the delivery of the world's largest Tumblast machine to Belgium.

For a number of years, Wheelabrator has had successful manufacturing licensing arrangements in several European countries.

In order to meet growing demands for company products in the equipment trade lines and to maintain a favorable competitive position, Wheelabrator undertook the development of new and improved machines for faster and more economical cleaning of metal castings and forgings.

The W. J. Schoenberger Company

The W. J. Schoenberger Company, a wholly-owned subsidiary located in Cleveland, O., continues to be one of the most important suppliers of valves, fittings, pilot lights and other items for the gas appliance industry.

Introduction of shutoff valves and fittings made of malleable iron instead of brass for gas home heating units in 1955 met immediate favorable response in the industry because of the cost reduction made possible by using the cheaper metal.

Sales of these products increased as a result of this manufacturing innovation.

Introduction of a radically different gas stove pilot light made from chrome steel hypodermic needle tubing was equally well received by appliance manufacturers because of the lower operating cost and greater efficiency.

The hypodermic pilot light burns with a flame the size of a pinhead and is located at each burner,

thus giving immediate ignition and at the same time eliminating the hot spot on the gas range tops caused by the central type of pilot light.

The Schoenberger Company also improved the top burner timer introduced in 1954 for gas ranges and it continued to meet favor in the appliance industry.

Hydraulic Research and Manufacturing Co.

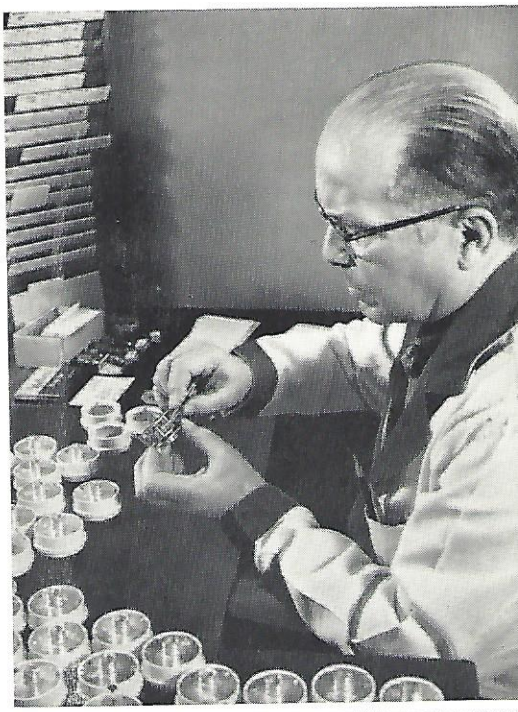
New product development was emphasized at Hydraulic Research and Manufacturing Company, Burbank, Calif., during 1955 to expand the company's product line in keeping with the rapid progress in automatic control systems being made by the aircraft industry.

First production orders were received for several of these new developments which promise to have both commercial and military airplane applications and guided missile uses.

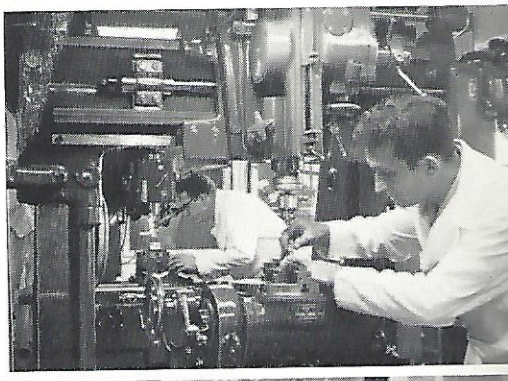
Helicopter Subsidiaries

The Bell Exploration and Development Corporation, a subsidiary formed in 1955, demonstrated the utility of the Bell helicopter for geologic and geodetic surveys to mining companies in Colorado and New Mexico. As a direct result of this activity, added sales of helicopters were made.

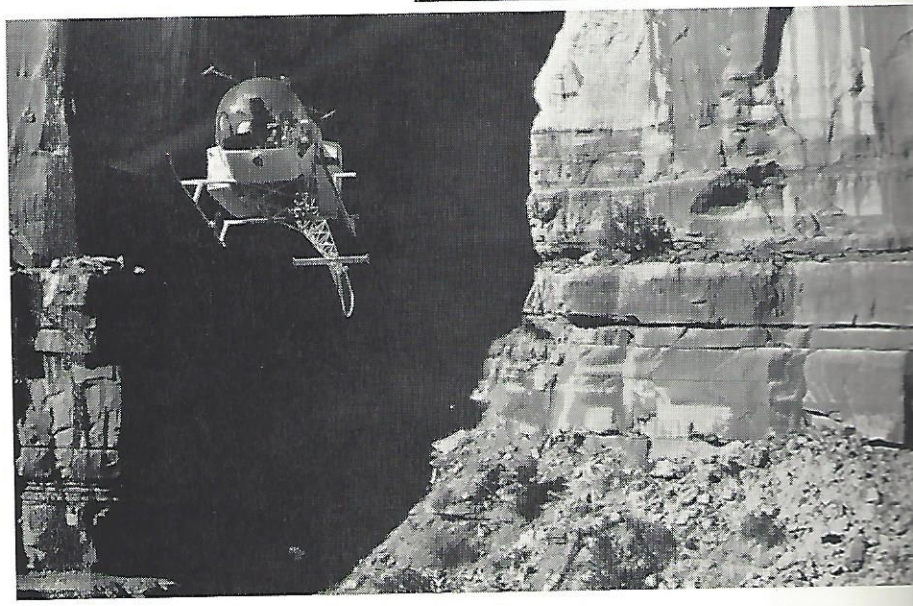
Bell Aircraft Supply Corporation continued to sell commercial helicopters and to provide spare helicopter parts for operators on the West Coast. Its offices are in Glendale, Calif.



Clock mechanisms for gas range top burner timer unit are inspected at The W. J. Schoenberger Company. This firm also makes valves, pilot lights and related items for the gas appliance industry.



Precision machining of small parts is standard procedure in production of high-performance valves by Hydraulic Research and Manufacturing Company.



Bell Exploration and Development Corporation, formed in 1955, uses company helicopters in western states to demonstrate their utility for mineral prospecting. Close inspection of the rock formation of canyon walls such as this is one of the great advantages provided by helicopters in geophysical work.

1955

5-Year Summary of

Financial Position

As of December 31,	1955
Current assets	$ 49,335,883
Current liabilities	26,577,859
Working capital	$ 22,758,024
Other assets	350,869
Property plant and equipment — net	15,051,158
	$ 38,160,051
Less: Long term liability	750,000
Net assets	$ 37,410,051
Represented by stockholders' investment in	
Capital stock	$ 2,626,642
Capital surplus	11,657,510
Earnings retained for use in the business	23,125,899
	$ 37,410,051
Stockholders' equity per share*	$ 14.24
Ratio of current assets to current liabilities	1.9 to 1.0

Sales, Earnings and Dividends

Sales	$204,440,543
Earnings before taxes on income	12,014,482
Taxes on income	6,100,000
Net earnings	5,914,482
Cash dividends paid	3,268,077
Net earnings per share*	$ 2.25
Cash dividends paid per share*	1.25

General Information

Bank loans and mortgage	$ 1,250,000
Wages and salaries	$ 99,700,000
Gross additions to plant and equipment	$ 2,413,000
Depreciation and amortization	$ 2,190,000
Number of shares of stock outstanding	2,626,642
Number of stockholders	5,688
Number of employes at year end	17,500
Square feet of floor area — Bell owned	1,960,000
Leased	690,000
Government owned	640,000

*Adjusted for 2 for 1 stock splits in 1952 and 1954, and based on outstanding shares of stock at year-end

Comparative Financial Data

1954	1953	1952	1951
$ 53,445,054	$ 47,872,552	$ 52,538,093	$ 49,410,052
33,944,268	36,712,456	42,079,608	39,998,380
$ 19,500,786	$ 11,160,096	$ 10,458,485	$ 9,411,672
945,211	957,126	971,569	1,171,901
15,202,305	12,502,780	11,793,750	10,313,889
$ 35,648,302	$ 24,620,002	$ 23,223,804	$ 20,897,462
1,250,000	1,750,000	2,250,000	2,500,000
$ 34,398,302	$ 22,870,002	$ 20,973,804	$ 18,397,462
$ 2,590,692	$ 884,478	$ 879,778	$ 439,889
11,328,116	4,677,024	4,615,543	5,055,432
20,479,494	17,308,500	15,478,483	12,902,141
$ 34,398,302	$ 22,870,002	$ 20,973,804	$ 18,397,462
$ 13.28	$ 12.93	$ 11.92	$ 10.46
1.6 to 1.0	1.3 to 1.0	1.2 to 1.0	1.2 to 1.0
$185,646,114	$145,967,100	$128,552,236	$ 81,994,346
13,054,243	10,561,223	7,104,441	4,477,369
6,650,000	7,095,800	4,061,000	2,550,000
6,404,243	3,465,423	3,043,441	1,927,369
3,233,249	1,768,806	1,319,667	983,900
$ 2.47	$ 1.96	$ 1.73	$ 1.10
1.25	1.00	.75	.56
$ 8,250,000	$ 14,250,000	$ 25,000,000	$ 27,500,000
$ 96,450,000	$ 80,900,000	$ 60,400,000	$ 46,000,000
$ 3,262,000	$ 2,096,000	$ 3,847,000	$ 3,183,000
$ 2,125,000	$ 1,083,000	$ 770,000	$ 556,000
2,590,692	884,478	879,778	439,889
6,018	2,765	2,225	1,676
18,850	16,600	14,550	11,500
1,960,000	1,690,000	1,620,000	1,350,000
650,000	595,000	470,000	380,000
640,000	640,000	675,000	600,000

Consolidated

Assets

	December 31 1955	1954
CURRENT ASSETS:		
Cash	$ 6,539,963	$ 7,632,150
Receivables —		
Defense contracts (Including costs and fees under CPFF contracts: 1955 — $5,435,886; 1954 — $5,676,965)	17,481,270	19,704,306
Other trade, notes and sundry receivables	6,187,120	5,258,811
Inventories, less partial payments of $48,694,634 and $59,637,244 in 1955 and 1954 respectively (Note 5) —		
Raw materials, supplies and perishable tools, generally at average cost	6,484,245	7,517,016
Work in progress, at lower of cost or market	11,974,888	12,608,151
Prepaid insurance and other expenses	668,397	724,620
Total current assets	$49,335,883	$53,445,054
PROPERTY, PLANT AND EQUIPMENT, at cost:		
Land and buildings	$12,959,340	$12,408,540
Machinery, equipment, etc.	11,750,770	10,337,313
Leasehold improvements, net	568,462	712,060
	$25,278,572	$23,457,913
Reserves for depreciation and amortization	10,227,414	8,255,608
	$15,051,158	$15,202,305
DEFERRED CHARGES (Including design rights and patents at $1)	$ 350,869	$ 945,211
	$64,737,910	$69,592,570

The accompanying notes are an integral part of these statements.

Bell Aircraft Corporation

Balance Sheets

Liabilities

	December 31 1955	1954
CURRENT LIABILITIES:		
Notes payable	$ —	$ 6,500,000
Accounts payable	7,216,945	7,594,623
Accrued wages and benefits, taxes, etc.	12,440,630	11,041,673
Reserve for Federal taxes on income	6,920,284	8,807,972
Total current liabilities	$26,577,859	$33,944,268
FIRST MORTGAGE 4½% BONDS, due December 1, 1961, less $500,000 included in accounts payable (Note 2)	$ 750,000	$ 1,250,000
STOCKHOLDERS' EQUITY (Note 2):		
Common stock, authorized 3,500,000 shares at $1 par value per share (Note 3) —		
Issued and outstanding — 2,626,642 shares	$ 2,626,642	$ —
2,590,692 shares	—	2,590,692
Capital surplus, per accompanying statements	11,657,510	11,328,116
Earnings retained in the business, per accompanying statements	23,125,899	20,479,494
	$37,410,051	$34,398,302
	$64,737,910	$69,592,570

The accompanying notes are an integral part of these statements.

and Subsidiary Companies

Consolidated Income and Earnings Retained in the Business

	For the years ended December 31	
	1955	1954
SALES — net (Including billings under CPFF contracts)	$204,440,543	$185,646,114
COSTS AND EXPENSES (Including interest expense of $197,609 in 1955 and $521,882 in 1954)	193,164,648	173,543,768
	$ 11,275,895	$ 12,102,346
OTHER INCOME — Net	738,587	951,897
Income before provision for Federal taxes on income	$ 12,014,482	$ 13,054,243
PROVISION FOR FEDERAL TAXES ON INCOME	6,100,000	6,650,000
NET INCOME FOR THE YEAR (Note 1)	$ 5,914,482	$ 6,404,243
EARNINGS RETAINED IN THE BUSINESS, at beginning of year	20,479,494	17,308,500
	$ 26,393,976	$ 23,712,743
Dividends paid — $1.25 per share	3,268,077	3,233,249
EARNINGS RETAINED IN THE BUSINESS, at end of year (Note 2)	$ 23,125,899	$ 20,479,494

The consolidated provision for depreciation and amortization was $2,190,000 in 1955 and $2,125,000 in 1954.

The accompanying notes are an integral part of these statements.

Consolidated Capital Surplus

		1955	1954
BALANCE, at beginning of year		$11,328,116	$ 4,677,024
Add:	Excess of amounts paid in over par value of shares of common stock issued under restricted stock option agreements, and employes' stock purchase plan (Note 3)	329,394	355,570
	Excess of value of 393,784 shares of common stock over par value of such shares issued in exchange for all outstanding shares of Wheelabrator Corporation, and all outstanding shares of Hydraulic Research and Manufacturing Company	—	7,585,952
Deduct:	Transfer to common stock of amount equivalent to aggregate par value of 1,290,430 shares issued on stock split of two shares for one	—	1,290,430
BALANCE, at end of year		$11,657,510	$11,328,116

Notes to Financial Statements

NOTE 1 — RENEGOTIATION

A substantial portion of the consolidated sales for the years 1953, 1954 and 1955 is subject to renegotiation under the Renegotiation Act of 1951. It is the opinion of management that renegotiation will have no material effect on the financial statements and, therefore, no provision for renegotiation has been made.

NOTE 2 — RESTRICTIONS ON SURPLUS

The indenture for the First Mortgage 4½% Bonds, due December 1, 1961 provides, among other things, that the Company will not declare or pay any dividends (other than dividends payable in its own stock) or purchase or redeem any of its outstanding stock, unless after payment or declaration of such dividends or purchase or redemption of stock, consolidated net current assets are at least $7,000,000 and the total of such declarations and payments do not exceed 75% of the consolidated net income subsequent to December 31, 1950. Consolidated net current assets at December 31, 1955, aggregated $22,758,024, and 75% of consolidated net income subsequent to December 31, 1950, after dividends, amounted to $4,992,519.

The indenture also provides for sinking fund payments for the retirement of such mortgage bonds at the greater of $250,000 or 15% of the sum of consolidated net income for the calendar year preceding the payment date and the aggregate amounts charged against consolidated net income for such year for depreciation, obsolescence, retirement, renewal, replacement or amortization of physical properties: however, such amount shall not be in excess of $500,000.

NOTE 3 — COMMON STOCK

At December 31, 1955, 30,000 shares were reserved for issuance to an officer under a restricted stock option agreement which provides that the shares may be purchased under certain conditions at $6.84375 per share. The option was exercisable on September 7, 1951 (date of grant) and expires on September 7, 1961. During 1955, 30,000 shares were sold at $6.84375 a share under the terms of restricted stock option agreements. The average of the quoted market prices at the time of sales was $23.56 a share, or an aggregate market value of $706,875.

Pursuant to an employes stock purchase plan which expires on December 31, 1961, 34,650 shares were reserved at December 31, 1955 for issuance to certain eligible employes at prices to be determined by the Board of Directors. Of the shares reserved, 400 shares had been authorized for sale at $5.00 a share at various dates to June 12, 1956. During 1955, 5,550 shares were sold at $5.00 a share and 400 shares were sold at $3.00 a share.

NOTE 4 — EMPLOYES' PENSIONS

In addition to the contribution in 1955 for the salaried employes retirement plan, initial payments of $1,187,800 were made into trusts to provide non-contributory retirement benefits under the Hourly Employes' Pension plans. Of this amount, $309,200 was attributable to past service benefits based on amortizing the costs of such benefits over a thirty-year period.

NOTE 5 — TITLE TO INVENTORIES

Under the terms of defense contracts, title to inventories, on which partial payments have been received, vests in the U. S. Government.

Auditors' Report

ARTHUR ANDERSEN & CO.

67 BROAD STREET
NEW YORK 4

To the Stockholders and the
Board of Directors,

Bell Aircraft Corporation:

We have examined the consolidated balance sheet of Bell Aircraft Corporation (a New York corporation) and subsidiary companies as of December 31, 1955, and the related statements of income and earnings retained in the business and capital 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. We were unable to confirm receivables from the U. S. Government, but we applied other auditing procedures with respect thereto. We had previously made a similar examination for the year ended December 31, 1954.

In our opinion, the accompanying consolidated balance sheet and statements of income and earnings retained in the business and capital surplus present fairly the financial position of Bell Aircraft Corporation and subsidiary companies as of December 31, 1955, and the results of their operations for the year then ended, and were prepared in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Arthur Andersen & Co.

New York, N. Y.,
February 15, 1956.

BELL Aircraft CORP. DIVISIONS and SUBSIDIARIES

DIVISIONS

Niagara Frontier Division

P.O. Box 1, Buffalo 5, N. Y.

Wheatfield Plant
Northland Avenue Plant
Main St. Laboratory
Kenmore Avenue Plant
Military Road Plant
Niagara Falls Plant
Chandler St. Plant
Urban Street Plant
Bell Test Center
Tonawanda Plant

Texas Division

P.O. Box 482, Fort Worth 1, Texas

Hurst Plant
Globe Plant
Kent Plant

Commercial Products Department

701 Seneca Street, Buffalo 10, N. Y.

Supporting Facilities

Holloman Air Development Center, N. M.
Edwards Air Force Base, Calif.
Washington (D. C.) Office
Dayton (Ohio) Office

SUBSIDIARIES

WHEELABRATOR CORPORATION
Mishawaka, Indiana

BELL AIRCRAFT SUPPLY CORPORATION
P.O. Box 482, Fort Worth 1, Texas
Western Division, 1818 Victory Blvd., Glendale, Calif.

BELL EXPLORATION AND DEVELOPMENT CORPORATION
P.O. Box 482, Fort Worth 1, Texas

HYDRAULIC RESEARCH AND MANUFACTURING COMPANY
2835 N. Naomi St., Burbank, California

THE W. J. SCHOENBERGER COMPANY
8810 Harvard Avenue, Cleveland 5, Ohio

The contents of this Annual Report comply with Department of Defense regulations concerning release of information affecting national security


ROTOR CONVERTIPLANES
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