

*The*  
AIRCRAFT  
YEAR BOOK  
*For 1955*



*The*  
AIRCRAFT YEAR BOOK

1955



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**THE  
AIRCRAFT YEAR BOOK  
1955**

**Official Publication**

**of**

**THE AIRCRAFT INDUSTRIES ASSOCIATION OF AMERICA, INC.**

**Thirty-seventh Annual Edition**

**Editors**

**FRED HAMLIN**

**ELEANOR THAYER MILLER**

**Edited and Published by**



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## ACKNOWLEDGMENTS

The 1955 Aircraft Year Book represents the combined editorial talent of the industry. Only through the generous collaboration of company public relations officials, writers in other branches of aviation and aircraft executives, has this edition been possible. To these people we should like to express our thanks. We should like, also, to express our special gratitude to the Aircraft Year Book Editorial Board of the Public Relations Advisory Committee of the Aircraft Industries Association, who gave much valuable time in suggesting the handling of the material. The Committee included Mr. Carlyle Jones, Director of Public Relations, Sperry Gyroscope Co.; Mr. Jack Smith, Assistant Director of Public Relations, United Aircraft Corp.; and Mr. Joe Rowland, Manager, Information Services, Martin Co. Coordinating the work of the Committee were Mr. Avery McBee, Director of Public Relations of the Aircraft Industries Association, and Mr. Burton E. English, Public Relations, AIA, to whom we are also deeply grateful.

THE EDITORS



*The* AIRCRAFT YEAR BOOK

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## FOREWORD

No year in the history of the American aircraft industry has been marked by more manifestations of aeronautical progress than 1955. Not only has there been tangible evidence of this progress, but advanced and accelerated research and development have opened the doors to unexplored avenues of progress in such fields as earth satellite, the thermal barrier, atomic-powered aircraft and the inter-continental ballistics missile.

Guided missile development and production have forged ahead and the programs of the armed services for these weapons clearly reflect the high order of importance attached to them. All types of jet and rocket power plants of vastly greater output are in production or under development.

Experimental convertiplanes, combining the advantages of helicopters and airplanes, have made their appearance. The principle of wingless vertical flight, both ducted fan and jet, has been introduced. Progress in the development and operational use of helicopters continues at a gratifying pace. Turbojet and turboprop powered commercial airliners of American manufacture are now entering production.

Delivery of substantial numbers of supersonic jet fighters to the Air Force and Navy began in 1955 with the production rate for aircraft of this capacity scheduled to increase sharply. A new official world's speed record of 822 mph was established during the past year. The medium bomb wings of the Strategic Air Command were completely equipped with multi-engined jet bombers. Initial deliveries of longer-range, multi-engined jet bombers to the heavy bomb wings of SAC were begun during the year.

In effect, 1955 was the first year during which the expanded research and development effort undertaken at the time of outbreak of war in Korea came to fruition. We are in a grim international race for aeronautical supremacy, and the finish line is not in sight.

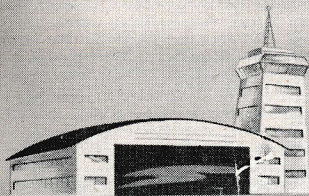
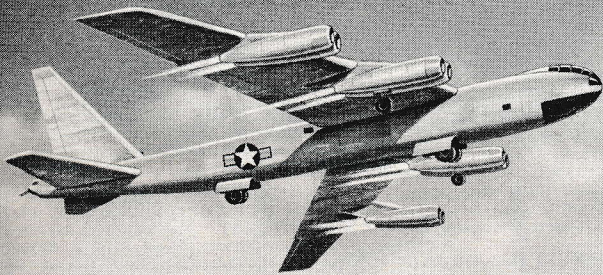
This edition of the Aircraft Year Book reports not only on the aircraft industry, but on many other aspects of major aviation achievement. The activities of the Air Force, Naval Aviation, the Marine Air Arm, and Army Aviation are included. The Year Book likewise deals with the work of other government departments and agencies. It reviews the great progress of the commercial airlines, which flew some 42-million passengers 24,409,-470,000 passenger miles. It gives coverage to utility aircraft and their progress as servants of business, industry and agriculture, and on the development of the helicopter, both in its military role and its bright commercial future.

The Aircraft Industries Association believes that the 1955 edition of the Aircraft Year Book will contribute, as have the 36 which have preceded it, to a more complete public understanding of aviation and its relation to the general welfare, prosperity and security of our country.

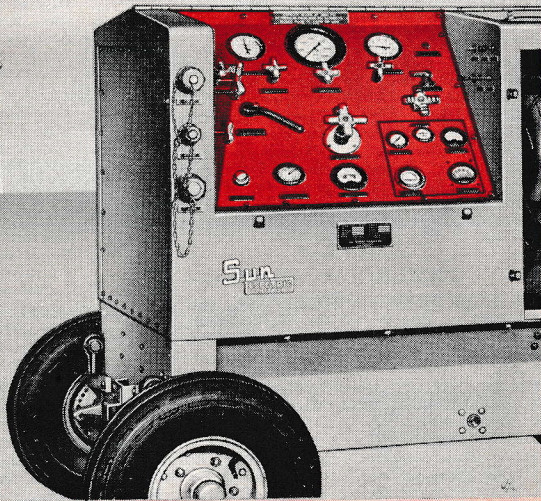
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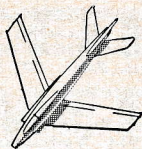
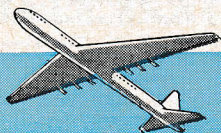
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<sup>1</sup>Also includes 1954 books published too late for inclusion in last year's edition.

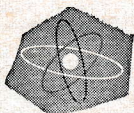


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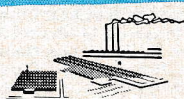
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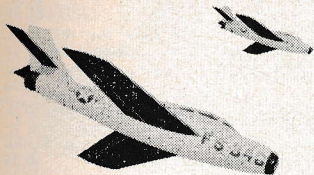
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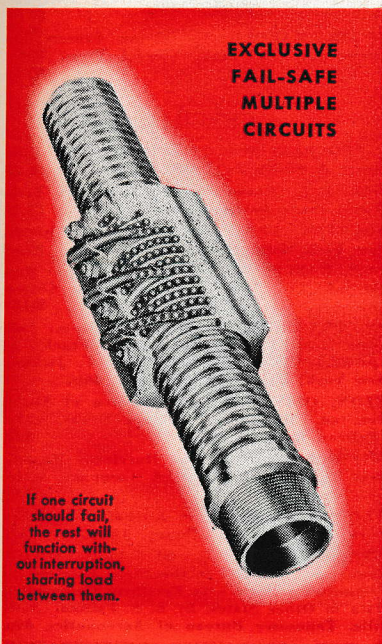
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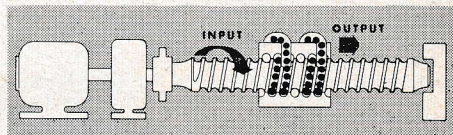
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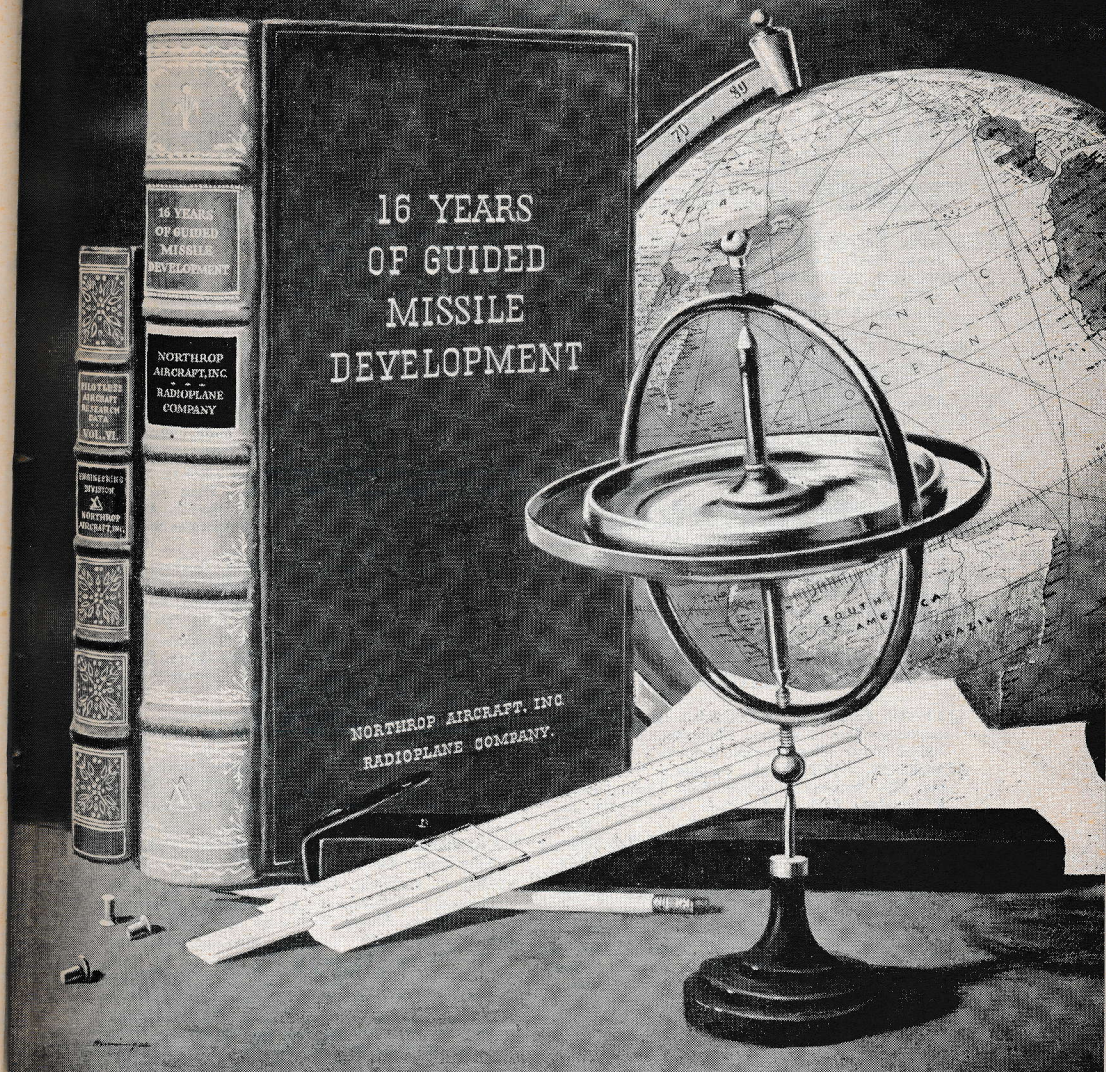
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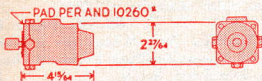
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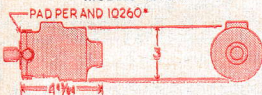
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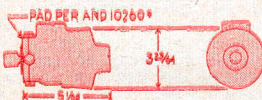
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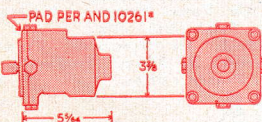
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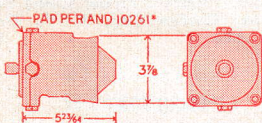
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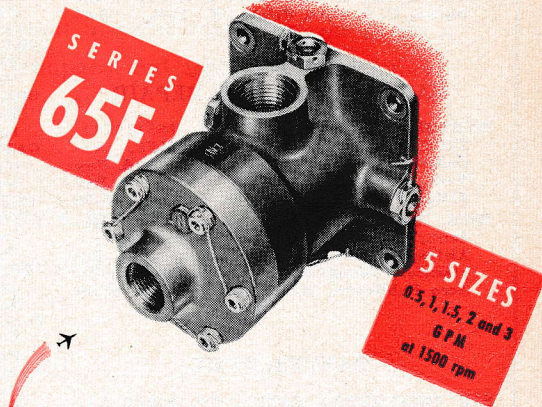
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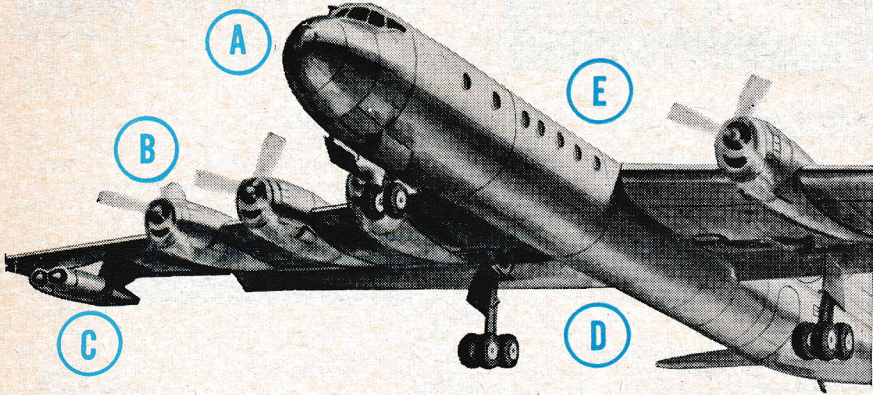
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Autosyn Synchronizers—(transmitters,  
receivers, differentials, control  
transformers and resolvers) •  
Amplifiers • Low Inertia Motors  
• Servos • Transformers •  
Gyros • Rate Generators  
For Guided Missiles—Specialized  
fuel metering and control systems  
Aircraft Gun Chargers  
Switches • Controls

## BENDIX IN THE WEATHER FIELD

In addition to the products listed above, Bendix makes many meteorological instruments which are the source of much of the weather data governing flight schedules for all types of planes.

\*REGISTERED TRADEMARK OF THE BENDIX AVIATION CORPORATION



## The AIRCRAFT YEAR BOOK

- GREEN, WILLIAM and RAY CROSS. The Jet Aircraft of the World. Garden City, N. Y., Hanover House. 176p. \$6.95
- GREEN, WILLIAM and GERALD POLLINGER. The World's Fighting Planes. Garden City, N. Y., Hanover House. 237p. \$3.50
- HARVEY, D. C. T. British Civil Aircraft. New York, John de Graff, Inc. 168p. \$3.00
- JANE'S ALL THE WORLD'S AIRCRAFT. 1955-1956 ed. New York, McGraw-Hill Book Company, Inc. \$25.00
- PEREIRA, HAROLD. Aircraft Badges and Markings. New York, John de Graff, Inc. \$1.50
- U. S. BUREAU OF FOREIGN AND DOMESTIC COMMERCE. Foreign and International Aviation . . . Basic Information Sources. Prepared by N. W. Kendall. Washington, U. S. Govt. Print. Off. 21p. (*Its World Trade Information Service*, Part 4, No. 55-7) \$2.00
- U. S. CIVIL AERONAUTICS ADMINISTRATION. Statistical Handbook of Civil Aviation, 1955. Washington, U. S. Govt. Print. Off. 119p. \$5.00
- U. S. DEPARTMENT OF THE AIR FORCE. Index of Specifications and Related Publications Used by the Air Force. Military Index, Vol. 4 April 1955. Wright Air Force Base, Dayton, Ohio, Air Research and Development Command. 507p. \$2.00
- U. S. LIBRARY OF CONGRESS. REFERENCE DEPARTMENT. Aeronautical Sciences and Aviation in the Soviet Union; a bibliography compiled by Bertha Kucherov. Washington, Card Division, Library of Congress. 274p. \$2.00
- U. S. NATIONAL ARCHIVES. Preliminary Inventory of the Records of the Joint Congressional Aviation Policy Board, 1947-1948. Compiled by W. C. Caudill and G. P. Perros. Washington, U. S. Govt. Print. Off. 26p. (*Its Publication No. 55-5. Preliminary Inventories No. 74*).
- WHO'S WHO IN WORLD AVIATION. Washington, American Aviation Publications, Inc. 345p. \$10.00

## ROTOR AIRCRAFT

- AMERICAN HELICOPTER SOCIETY. Proceedings of the 11th Annual Forum of the American Helicopter Society, Inc., Washington, April 27-30, 1955. New York, The Society. 172p. \$6.75
- CAMPBELL, HARRIS S. Mechanical Design and Description. Washington, Office of Technical Services, 1954. 275p. (Rotary Wing Aircraft Handbook and History. v. 8) \$7.00
- LIBERATORE, EUGENE K. Special Types of Rotary Wing Aircraft. Washington, Office of Technical Services, 1954. 131p. (Rotary Wing Aircraft Handbook and History. v. 11) \$3.50

## SPACE FLIGHT

- ADAMSKI, GEORGE. Inside the Space Ships. New York, Abelard-Schumann, Inc. 256p. \$3.50
- BURGESS, ERIC. Frontier to Space; with a Foreword by Sir Harold Spencer Jones. New York, The Macmillan Company. 174p. \$4.50
- BURNETT, RAYMOND W. Operation Moon; Facts We'll Need to Know When We Travel to Other Worlds. Paul Brandwein, Consulting Editor. Chicago, Science Research Associates. 48p. (Science Research Associates Modern World of Science Series).
- EPSTEIN, BERYL WILLIAMS. The Rocket Pioneers on the Road to Space, by Beryl Williams and Samuel Epstein. Foreword by Andrew G. Haley. New York, Julian Messner, Inc. 241p. \$3.75
- RICHARDSON, ROBERTS S. Exploring Mars. New York, McGraw-Hill Book Company. 261p. \$4.00
- SMITH, RALPH ANDREWS. The Exploration of the Moon. Text by Arthur C. Clarke. New York, Harper and Brothers. 112p. \$2.50
- TEMPLE, WILLIAM F. The Prentice-Hall Book About Space Travel. Illustrated by Henry Billings. New York, Prentice-Hall, 1954. 142p. \$2.75



# Defense is

*our business...*

From earliest cannon-carrying fighters to the most advanced guided missile weapons systems, Bell Aircraft has pioneered for 20 years in the design and production of new armament for our nation's security.

In guided missiles, for instance, Bell is prime contractor for the strategic, long-range GAM-63 Rascal missile and also supplies high performance systems and components for missiles of other manufacturers.

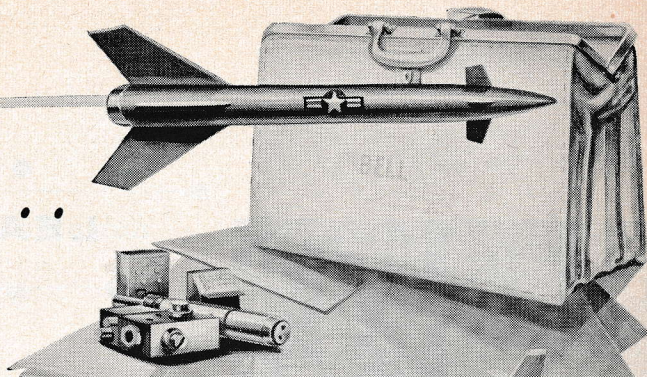
The famous Bell series of research aircraft—X-1, X-1A, X-1B, X-2 and X-5 is providing today's information for tomorrow's tactical planes. The XV-3 convertiplane and jet-powered VTOL promise to change the entire concept of military aviation.

In hot war, cold war or peace, Bell Aircraft's engineers, skilled workers and modern facilities work progressively toward protecting our American way of life. National Defense has been, is now and will continue to be —our business.

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*Aircraft* CORP.

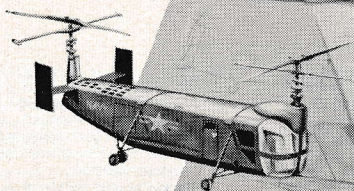
BUFFALO, N. Y. FORT WORTH, TEXAS



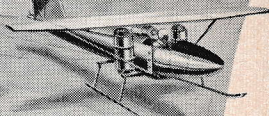
ELECTRONICS & SERVOMECHANISMS



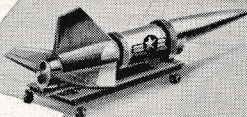
MILITARY AIRCRAFT



ANTI-SUBMARINE HELICOPTERS



VTOL AIRCRAFT



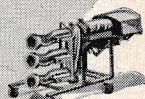
GUIDED MISSILES



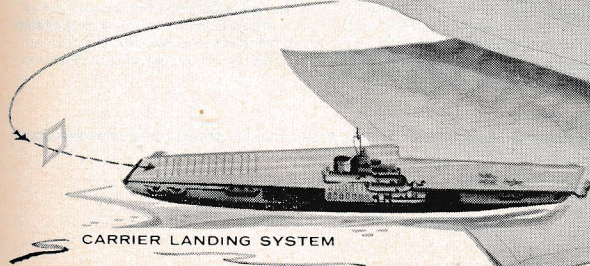
MILITARY and COMMERCIAL HELICOPTERS



XV-3 CONVERTIPLANE

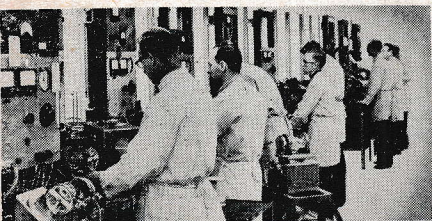


ROCKET ENGINES



CARRIER LANDING SYSTEM





# LEAR PRODUCES for

*This roster of Lear aviation products is, of necessity, incomplete. Many of these products are frequently combined to form an infinite variety of additional products or systems. Only enough typical devices are shown here to demonstrate Lear's mastery of a field of science and technology that uses thousands of such building blocks for meeting the highly specialized requirements of modern aircraft and missiles.*

## δ flight control systems

- Automatic altitude controllers
- Automatic approach couplers
- Automatic Mach number controllers
- Automatic pilots (lightplane)
- Automatic pilots (high-performance)
- Automatic pitch, yaw, and roll dampers
- Automatic rudder controllers
- Automatic wing flap systems
- Missile control systems
- Test equipment

## σ flight reference systems

- No-gimbal-lock vertical gyro indicators
- Stable platforms
- Test equipment
- Three-axis gyro indicators
- Vertical gyro indicators

## γ navigational systems

- Automatic radio direction finders
- Glide slope receivers
- High-latitude gyro compass systems
- Integrated ADF-magnetic compass systems
- Localizer receivers
- Marker beacon receivers
- VHF Omnidirectional receivers

## ξ electro-mechanical systems

- Artificial feel systems
- Camera positioners
- Canopy control systems
- Carburetor air door controllers
- Convertiplane rotor positioning systems
- Cowl flap positioners
- De-icing valve positioners
- Engine throttle controllers
- Gas, hydraulic, fuel, valve positioners
- Inlet screen retraction systems
- Inlet vane angle controllers
- Jettison systems
- Landing gear lock systems
- Mechanical advantage ratio changers
- Oil cooler flap controllers
- Parachute door systems
- Precision remote positioning systems
- Supercharger blower shifters
- Test equipment
- Throttle friction controllers
- Trim tab positioners
- Turbo-prop clutch valve controllers
- Wing flap positioning systems

## λ electro-mechanical components

- Linear actuators
- Rotary actuators
- Servo actuators
- Power units
- Actuator controls
- Alternators
- Capstans

- Freewheeling clutches
- Friction clutches
- Magnetic clutches
- Slip overload clutches
- Electromagnetic brakes
- Flex drive H's, hex's, L's, and r's
- Flexible shafts
- Gearboxes
- Handcranks
- Motors (AC and DC)
- Enclosed fan motors
- Explosion proof motors
- Gearhead motors
- High frequency motors
- High temperature motors
- Miniature motors
- Pneumatic motors
- Servo motors
- Torque motors
- Screwjacks
- Load limit switches
- Position limit switches
- Programming switches

## ζ instruments

- ADF indicators
- Attitude indicators, 2-axis
- Attitude indicators, 3-axis
- Directional indicators
- rus indicators
- Integrated ADF-magnetic indicators
- Trim indicators
- Tuning meters
- Omnidirectional indicators

## μ instrument components

- Altitude transducers
- Vacuum tube amplifiers
- Magnetic amplifiers
- Printed and etched circuit amplifiers
- Transistor amplifiers
- Displacement gyros





S  
for the precision needs of aviation

Dynamic pressure transducers  
Gravity-sensing switches  
Magnetic modulators  
Magnetic powder clutches  
ac and dc servo motors  
Electric gyro motors  
Flag motors  
High-frequency motors  
Torque motors  
Power converters  
Rate generators  
Rate gyros  
Resolvers  
Synchros  
Synchro repeaters

$\psi$  communications systems

UHF, VHF, HF, MF, and LF receivers  
VHF transceivers  
VHF, HF, and MF transmitters  
ADF receivers  
Airport traffic transceivers  
Monitoring transceivers  
Portable transceivers  
Telemetry receivers  
Test equipment

$\epsilon$  communications components

Audio frequency amplifiers  
Vacuum tube amplifiers  
Magnetic amplifiers  
Power amplifiers  
Printed and etched circuit amplifiers  
Transistor amplifiers  
Aircraft broadband antennas  
Ground plane antennas  
LF-MF whip antennas  
Loop antennas  
Mobile antennas  
Trailing wire antennas  
UHF-VHF whip antennas  
VHF Omnidirectional antennas

Antenna fairleads  
Antenna reels  
Antenna tuning coils  
Cable assemblies  
Coil assemblies  
Crystals  
Dynamotors  
Headsets  
Loudspeakers  
Amplifying loudspeakers  
Noise-cancelling microphones  
Radio noise filters

$\phi$  test equipment

Bench test cable assemblies  
Electronic test sets  
Field strength meters  
Pressurizing test kits  
Universal electro-mechanical test stands  
Universal motor test stands

$\eta$  fluid handling equipment

Absolute pressure switches  
Bombsight and instrument desiccators  
Canopy seal pressurizing kits  
Cooling units for electronic assemblies  
Dehydrators  
Fuel flow dividers  
Pneumatic actuators  
Pressurizing control panels  
Alcohol pumps  
Anti-detonant injection pumps  
Ballast pumps  
Bilge and refueling pumps  
Dry air pumps  
Electric motor driven pumps  
Ethylene glycol and coolant pumps  
Ethylene oxide pumps  
Fuel pumps  
Fuel booster pumps  
Fuel filter de-icer pumps  
Fuel transfer pumps

Hand operated pumps  
Heater fuel pumps  
Hydraulic pumps  
Hydraulic oil booster pumps  
Hydrogen peroxide pumps  
Lube oil and scavenge pumps  
Multiple-element pumps  
Oil transfer pumps  
Scavenge pumps  
Smoke pumps  
Submerged fuel booster pumps  
Vacuum pumps  
Water pumps  
Radar pressurizing kits  
Rocket engine fueling nozzles  
Air relief valves  
Check valves  
Hydraulic valves  
Hydraulic servo valves  
Isobaric relief valves  
Pressure regulating valves  
Vacuum valves

$\pi$  miscellaneous

Airborne television installations  
Airplane brake modernization kits  
Auxiliary power supplies  
Electronic chassis assemblies  
Executive airplanes  
Periscope prism selectors  
Precision remote positioners  
Printed circuits  
Radomes  
Wire harnesses

**LEAR**

