







J. S. McDonnell  
President

## THE McDONNELL STORY

A program of daring engineering, conducted concurrently with airframe parts manufacturing during World War II saw the McDonnell Aircraft Corporation through its early, lean years. Its early research in the field of jet propulsion, coupled with experience gained in meeting tough delivery schedules, has paid dividends.

For McDonnell products have made aviation history with consistent frequency . . . the F1H-1 Phantom . . . F2H-1, F2H-2, and F2H-3 Banshees . . . XHJD-1 Whirlaway . . . XH-20 "Little Henry" . . . XF-85 Goblin . . . XF-88 Voodoo . . . F3H-1 Demon . . . F-101 Voodoo . . . and others still under development.

The same progressive spirit that has characterized the company's early history may still be sensed by the visitor of today. Entirely new fields of airplane, helicopter, propulsion and guided missile research are being constantly probed for new designs and new production ideas.

## DIRECTORS

ROBERT B. CHARLES	St. Louis*
C. WARREN DRAKE	St. Louis*
JAMES LEE JOHNSON	St. Louis
JAMES S. McDONNELL, JR.	St. Louis*
WILLIAM A. McDONNELL	St. Louis
THOMAS S. McPHERSON	St. Louis
WILLIAM B. OSTWALD, JR.	St. Louis
KENDALL PERRINS	St. Louis*
JAMES E. WOOD	Washington, D. C.
SEYMOUR W. SOULERS	Washington, D. C.

\*Executive Committee

## MANAGEMENT

JAMES S. McDONNELL, JR.	President
C. WARREN DRAKE	Vice President, Manufacturing
WILLIAM A. HOPE	Vice President, Factory Manager
WALTER F. BURKE	Assistant Factory Manager
KENDALL PERRINS	Vice President, Engineering
GARRETT C. COVINGTON	Vice President, Airplane Engineering
ALBERT FUSKE	Airplane Assistant Chief Engineer
VERNON OSTMAN	Airplane Chief Technical Engineer
CHARLES H. HUCKLEBY	Helicopter Chief Engineer
BEN G. BRIDGERS	Missile Chief Engineer
ROBERT B. CHARLES	Vice President, Contracts, Controller
TIMOTHY G. RUTLEDGE	Secretary
JAMES H. CANNANER	Treasurer
WILLIAM B. OSTWALD, JR.	Vice President, Personnel and Public Relations
JOHN F. ALBRITTON, JR.	Vice President, Sales and Service



Headquarters of M.A.C. at Lambert Field



The XP-47 "Aerobee prototype," first M.A.C. design



XP-47 Phantom, first all-jet Navy fighter

## BRIEF HISTORY

### 1939

McDonnell Aircraft Corporation was founded July 6, 1939, and started to work with two employees. By October, the company had expanded to 15 employees and moved into a modest office at Lambert-St. Louis Municipal Airport.

### 1940

In June, McDonnell Aircraft occupied its first factory of 37,400 square feet at Lambert - St. Louis Municipal Airport. Just three months later, in September, the company executed its first contract with the U. S. Army Air Force, for \$20,000 worth of aeronautical engineering work.

December brought McDonnell its first major airplane sub-contracts and marked the beginning of the company's rapid growth.

### 1941

September was a major turning point for the expanding McDonnell engineering team. Three months before Pearl Harbor, the U. S. Army Air Force awarded McDonnell an experimental contract for the XP-67 "Bomber Destroyer" fighter. McDonnell's first contract for an experimental airplane of its own design.



The HO4S-1 "Hulawag" during landing tests



P-30, production model of the Phantom



XT-2 Osprey, radio-controlled aircraft

## 1942

Increasing sub-contracts for aircraft parts caused continued growth and expansion of the manufacturing facilities.

In January, the U. S. Army Air Force awarded McDonnell a contract to produce \$15,288,608 worth of twin-engine bomber trainers. This was the first production airplane contract awarded the company.

## 1943

January brought with it an experimental Navy contract for a plane that was destined to write aircraft history, the *XFD-1*, a twin-engined jet fighter now known the world over as the *Phantom*.

A still larger volume of airframe sub-contract work was being required of McDonnell.

## 1944

In May, the U. S. Navy awarded an experimental contract to McDonnell for the world's first twin-engined helicopter, the five-ton *XHHD-1 Whirlwind*.

In June, work was begun on McDonnell's first pilotless aircraft, the Navy *RTV-2 Gyroplane*, a radio-controlled flying bomb.

## 1945

March was a memorable month in the company's history. For the first time, it received a production contract from the U. S. Navy for a plane that was McDonnell's own design—the *FH-1 Phantom*. This twin-jet fighter was the first all-jet



Historic Sea Flight of XFD-1 Phantom



Completion of M.A.C. Gyroplane and Phantom



Phantoms in the Fleet, near Shorn Cove, Pacific Fleet

airplane to be put into production by the U. S. Navy.

Also in March, McDonnell was awarded a contract by the U. S. Navy to experimentally design, construct and flight test the *XF3H-1* twin-jet *Banshee*, prototype for the *Banshee* produced later.

McDonnell successfully developed its first pulse-jet engine.

## WORLD WAR II SUMMARY

*McDonnell manufactured 7,000,000 pounds of airframe. The work performed totaled \$60,000,000, on which earnings after taxes averaged three-fourths of one per cent. Maximum floor area was 700,000 square feet divided between 20 buildings in St. Louis and Memphis. Maximum employment was 5,312, of whom about 60% were women.*

## POSTWAR 1945

In October, McDonnell consolidated all operations in the present well-equipped plant at Lambert-St. Louis Municipal Airport.

The same month brought the first post-war contract, the experimental *XF-85 Goblin*, jet parasite fighter for the U. S. Army Air Force.

## 1946

In June, two additional experimental contracts were received from the U. S. Army Air Force. One was for the *XF-88 Hoodoo*, long range penetration fighter.



Touchdown for the XF-85A parasite after test flight.



XF-88 'Hoodoo', jet-powered helicopter.



The XF-88 parasite fighter heads for home on

The other was for the world's first ramjet helicopter, now known affectionately throughout the aviation world as *Little Henry*.

In July the *XFD-1 Phantom* made aviation history as the first all-jet airplane to take off and land on a U. S. aircraft carrier.

## 1947

In May, McDonnell received its first postwar production contract, for 50 *F4U-1 Corsairs* for the U. S. Navy.

In June, the company received its first postwar contract for the design, development and manufacture of guided missiles. This work is still being vigorously continued in our Missile Engineering Division.

## 1948

179 more *Banshees*, this time the *F2H-2*, were ordered by the U. S. Navy in May.

May brought more good news. An entire squadron of *Phantoms* completed successful trials aboard the U.S.S. *Saipan*, and the 60th and last *Phantom* was delivered by the McDonnell team, one month ahead of the contract schedule.

In order to meet its continually increasing requirements for testing models of advanced aircraft, in July M.A.C. purchased a one-sixth interest in the Southern California Cooperative Wind Tunnel at Pasadena. The tunnel was constructed by, and is operated by, the California Institute of Technology under the finan-



Flight of F2H-2 Banshees over U.S.S. *Kennecott*



Master F2H-2 Banshees in Formation



Banking Formation in the Mediterranean, Over Sicily



cial sponsorship of six aircraft companies. This tunnel is considered by aerodynamicists to be one of the best of its type in the country.

Throughout 1948 an operating team was built up at Edwards Air Force Base in California for experimental flight testing and development of the *XF-61 Goblin* and *XF-80 Toonbe*.

### 1949

In May, the U. S. Navy *F2H-1 Banshee* completed aircraft carrier trials aboard the U.S.S. Franklin D. Roosevelt.

The *F2H-1 Banshee* was credited in August with setting an altitude record for jet airplanes — 52,000 feet.

Deliveries commenced in November on the *F2H-2N Banshee*, designed for night fighting operations.

### 1950

Banshees played a leading aerial role in "Operation Postree", held in February.

In March, the M.A.C. Board of Directors declared the first dividend on the company's common stock.

*Banshees* again pointed up an aerial assault in April during the "Operation Crossover" maneuvers in North Carolina.

In July, Air Force flight evaluation of the *XF-68* was concluded. M.A.C. closed its flight test facility at Edwards Air Force Base, Murse, California.

An engineering contract was placed by M.A.C. in October for construction of a \$3,500,000 flight test operations building.



The F2H-1P photo Banshee over Missouri coastline



Night fighter, the F2H-2N Banshee, with radar nose



Newer, more powerful . . . the XF-68 Banshee

## 1951

In March, a contract was received from the U. S. Navy for production of the *F3H-1 Demon*.

Two important experimental helicopter contracts were received in June — one for development of a Navy assault transport helicopter; the other, for development of an Air Force convertiplane.

In July, M.A.C. purchased a main portion of its plant from the City of St. Louis for \$9,873,000.

The *F3H-2P Banshee*, first jet carrier-based photographic airplane developed, was announced in August. During that same month, *F3H-2 Banshees* of *VF-172* aboard the carrier, U.S.S. *Essex* went into action in Korea.

First flight of the *XF3H-1 Demon* took place at Lambert-St. Louis Municipal Airport on August 7.

In September, M.A.C. won a design competition for a cargo unloader helicopter.

In November, M.A.C. entered the longest term collective bargaining agreements ever reached in the aircraft manufacturing industry. The agreements covered three of the company's collective bargaining units and extended for 52 months.

## 1952

Delivery of the first *F3H-1 Banshee* was made in March.

In April, deliveries were completed on schedule of the first *F3H-2 Banshee* series.



*F3H-2 Banshees on Deck of U.S.S. Essex (LHA-4)*



*F3H-2 and -1 Banshees in Formation with F4U Corsair*



*Fighting Line-up . . . F3H-2, XF-400 and XF3H-1*

The final *F2H-2P* photographic *Banshee* was delivered, on schedule, in August.

An order was received from the Air Force in September for production quantities of the *F-101* *Voodos*, a twin-jet fighter airplane on which contracts for production engineering and tooling had been previously awarded.

## 1953

As the flight test program of the *XF8H-1* *Demon* continued, the production line was set up for accelerated deliveries of this Navy jet fighter.

The *XF-88B* *Voodos* was equipped with a turbo-prop installation to test propellers at sonic speeds.

In March, a contract for production engineering and tooling was received for a photo-reconnaissance fighter, the *RF-101A*.

Active research continued throughout the year on three rotary wing aircraft projects . . . the *XH-25*, Army-Air Force reconnaissance convertiplane, the *XHC-1*, Navy cargo unloader helicopter, and the *XH-40A*, Navy assault helicopter.

In October, the last *F2H-2* was delivered to the Navy, at which time more than 800 *Banshees* of all types had been delivered.

By the end of the year, M.A.C. neared completion of its \$18 million facilities program. Major installations included a \$3.6 million hangar building, a \$1 million low speed wind tunnel and a \$1 million propulsion laboratory, in addition to the acquisition of the main portion of the plant.



Take-off of XF-88B Voodoo Propeller Research Aircraft



Formation of RF-101A Banshees over Adirondack in Essex



XF8H-1 Demon Takes Off on Test Flight



Flight Dispatches in the New \$3,600,000 Hangar Building

## INDUSTRIAL TEAM

### Union Contract

An outstanding industrial relations program has fostered harmony between McDonnell and The Machinists, I.B.E.W., Teamsters and Firemen and Others unions.

### Cafeteria

A non-profit cafeteria, one of the most modern and sanitary in the country, is operated by McDonnell.

### Retirement Income Plan

All employees can avail themselves of this plan which provides for retirement at age 65. The company is paying about two-thirds of the cost. Approximately 98.7% of the employees who are eligible have availed themselves of the plan.

### Personnel Charity Trust

Worthy charitable organizations are awarded funds from this trust which is subscribed to by voluntary payroll deductions of 94.7% of all employees and administered by a Charity Board of three employees.

### Training

U. S. Navy and Marine Corps personnel as well as McDonnell employees utilize company training facilities. These technical courses are taught by company personnel. In addition,



F2H-2 Seaquest in Final Assembly



Seaquest in Japan, Over Mount Fujiyama

McDonnell maintains cooperative student training programs with prominent universities.

#### **Medical Facilities:**

Model emergency and sick-room facilities are staffed at all times. Several national safety awards indicate M.A.C.'s effective program for personnel welfare.

#### **Insurance:**

Life Insurance, Disability, Accident, Sickness, Hospital and Surgical Benefits are all available through this comprehensive low-cost group plan, which is utilized by 99.9% of the personnel.

#### **Recreation:**

The McDonnell team has twice-a-day, 15-minute rest periods in the shop, sports programs, paid vacations and holidays, an annual picnic, Christmas parties and musical comedy productions.

#### **Information:**

All employees are kept informed on company matters by "Mr. Mac" via the public address system as well as by mail to their homes, including special letters, annual reports, films, and "Airmag", company publication.



**M.A.C. Low Speed Wind Tunnel Under Construction**



**F-105 Patrol Duty Over Task Force 77**



**New \$1,000,000 Refrigeration Laboratory at Lambert Field**

## McDONNELL AIRCRAFT

### An Institution Serving the Community and the Nation

As shown by the record for the 14 years from the beginning of the company through 30 June 1953

- |  |                      |  |                 |
|--|----------------------|--|-----------------|
| 1. Sales.....  | \$443,187,411        | 9. Ratio of man days lost due to strikes to total man-days worked, 1/40th of 1%                          |                 |
| 2. Payroll.....  | \$233,445,319        | 10. All taxes paid by M.A.C. (including \$5,675,223 social security taxes which are part of Item 7)..... | \$22,561,817    |
| 3. Ratio of payroll to sales.....  | 52.67%               | 11. Ratio of all taxes paid by M.A.C. to sales.....  | 5.09%           |
| 4. Payroll of ten highest paid executives (average per man per year \$16,213).....   | \$2,269,773          | 12. Estimated additional taxes paid by employees out of their pay....                                    | \$45,815,051    |
| 5. Ratio of payroll of ten highest paid executives to sales.....   | 51/100ths of 1%      | 13. Estimated taxes paid by M.A.C. and employees.....  | \$68,376,868    |
| 6. On 30 June 1953: The salary after income taxes of president of M.A.C. is equal to the wages (for 48 hours per week) after income taxes of.....  | 8 unskilled laborers | 14. Ratio of taxes paid by M.A.C. and employees to sales.....  | 15.49%          |
| 7. Employee welfare, including retirement income plan, group insurance, social security taxes, workmen's compensation insurance, employee activities, vacations, sick leave and holidays, (\$30,826,455 vacation, sick leave and holiday pay is part of Item 2)..... | \$29,740,000         | 15. Materials, parts and supplies.....   | \$137,359,182   |
| 8. Ratio of employee welfare to sales.....   | 6.7%                 | 16. Rent, heat, light, maintenance, depreciation, plant insurance.....                                   | \$19,587,341    |
|  |                      | 17. All other operating expenses.....  | \$8,294,636     |
|  |                      | 18. Dividends.....   | \$2,760,792     |
|  |                      | 19. Ratio of dividends to sales.....   | 63/100ths of 1% |
|  |                      | 20. Earnings retained for growth (including \$1,626,589 transferred to capital stock).....               | \$14,926,907    |
|  |                      | 21. Ratio of earnings retained for growth to sales.....  | 3.37%           |
|  |                      | 22. Earnings after taxes.....  | \$17,716,780    |
|  |                      | 23. Ratio of earnings after taxes to sales.....  | 4.00%           |



MC DONNELL F2H-2 BANSHEES  
ABOARD THE USS ORISKANY

McDONNELL

*The Carrier*