



ASSET No. 2 Being Readied For Launch

McDonnell to Have Exhibit at N. Y. Fair Display Will Be in Missouri's Modern Pavilion

Visitors to the New York World's Fair, which opens April 14, can become much more knowledgeable about America's space efforts by visiting the McDonnell Aircraft exhibit at the Missouri Pavilion.

The McDonnell exhibit will be one of the main attractions in the Missouri Pavilion, which with 30-foot solar glass walls contributing to its striking modern look, is ideally located at the intersection of the Avenues of the States and the Avenues of the United Nations. Adjacent will be the New York State and Alaska pavilions; 800 feet north will be the Unisphere, central theme of the Fair.

Full-Scale Mercury

In prominent view in the approach to the pavilion from the intersection is a full scale Mercury Spacecraft, standing in launch position, complete with escape tower. This replica of America's first manned orbital spacecraft will provide a dramatic backdrop for visitors' snapshots. And for souvenir collectors, a plaque bearing signatures of the astronauts can be converted into a personal collection by simply laying a piece of note paper over the raised letters and rubbing easily with a pencil.

Just inside the air curtain doors through which the Missouri Pavilion is entered will be the McDonnell Gemini exhibit. A replica of Gemini, the craft for the next American adventure in space, contrasts sharply with a suspended replica of Charles A. Lindbergh's New York-to-Paris "Spirit of St. Louis." The two replicas symbolize the theme "First in Air, First in Space."

The Gemini is expected to be a main attraction at the Fair, especially during orbital flights of the two-man rendezvous spacecraft which are scheduled to occur periodically during 1964-65.

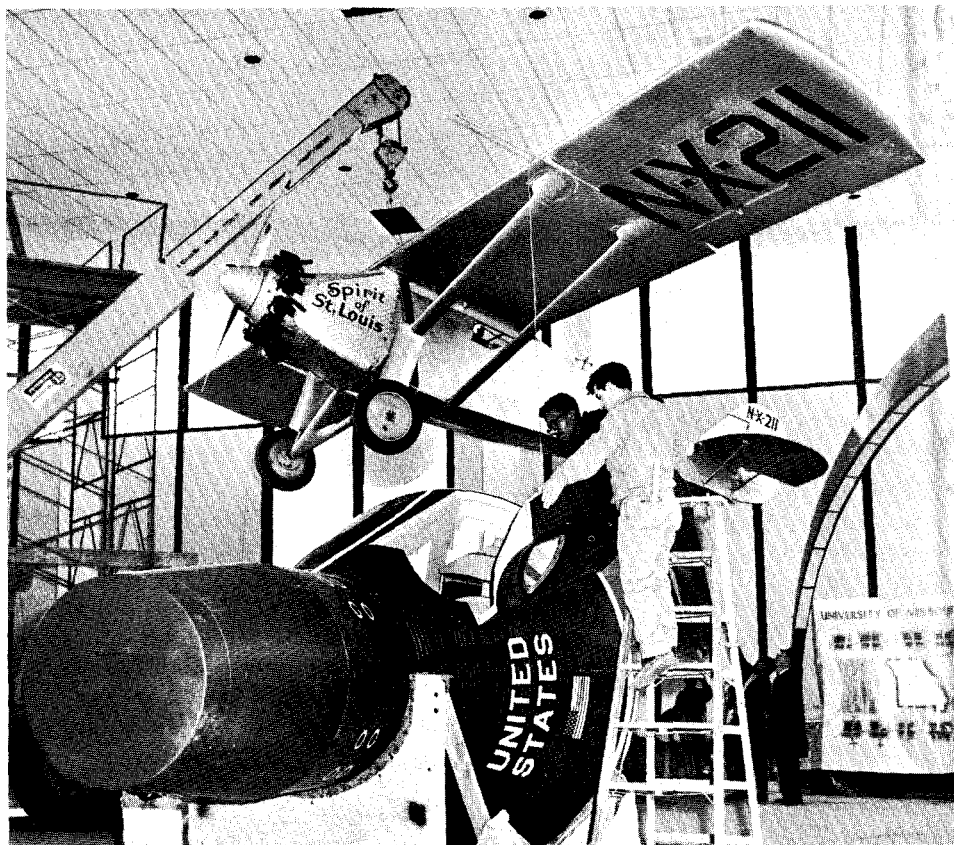
Activities, Products

Five tall photo panels will depict the major activities at McDonnell—research, engineering, manufacturing, automation and electronics. Scale models of the company's major aircraft products—the F4, RF4C, F-101 and others will be suspended from the ceiling as mobiles.

Passing the McDonnell reception desk—to be manned by at least one company representative during the hours the pavilion is open, 10 a.m. to 10 p.m.—the visitor will enter a ramp leading into the shell where a large backlit view of the Gemini rendezvous in space can be seen.

Inside the space-like darkness, visitors' attention will be turned to a full-scale Gemini reentry module. A suited mannequin astronaut will seem to float in space above the craft, duplicating a scene

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MCDONNELL-BUILT GEMINI SPACECRAFT model and a replica of Charles A. Lindbergh's Spirit of St. Louis symbolize the "First in Air, First in Space" theme to be carried out in the Missouri Pavilion at the New York World's Fair. Several days after photo was taken, the two-man Gemini Spacecraft had been suspended in McDonnell exhibit area and separated by a wall from the Lindbergh plane replica. The fair will be open from April 21 through Oct. 18 this year and from April 21 through Oct. 17, 1965.

Company's First NATO Day Holiday Will Be March 30

McDonnell Aircraft will this month become the first industrial firm in the world to observe NATO Day as a paid holiday for all personnel. The holiday will be granted on Monday, March 30, though the actual founding date of the North Atlantic Treaty Organization is April 4. Company-sponsored events to take place on the holiday will be announced later.

The March 30 date is in accord with the desires expressed by a majority of McDonnell personnel in a vote taken last October whereby they expressed a preference for NATO Day as the company's eighth paid holiday. The ballot stated that if NATO Day became the choice, United Nations Day (a company holiday since 1958) and NATO Day would be observed as holidays on the Monday of the week in which

October 24 and April 4 fall, thus providing two three-day weekends.

April 4, 1964, will be the fifteenth anniversary of the founding of the North Atlantic Treaty Organization. It was on that day in 1949 that 12 nations, including the United States, signed in Washington a 20-year treaty that pledged them in one of history's strongest alliances for peace. By 1955, the number of NATO countries had reached its present total of 15.

American Flags Offered For Sale in Cafeterias

To encourage employees to fly the American flag at their homes from March 30, the NATO Day holiday, through April 4, NATO Day, as well as on other patriotic holidays, the company is making available flags which can be purchased at actual cost in all cafeterias. The offer is limited to persons who work at McDonnell Aircraft.

The three-foot-by-five-foot American flag comes in two separate kits, one priced at \$2.29 and the other at \$4.40, both prices including tax. Both kits contain a two-way mounting bracket, pointers on the etiquette of flag-flying and a color pamphlet on flag history. Both kits are contained in a sturdy, self-storage box.

The \$4.40 kit has a steel instead of a wood staff, plus an eagle mounting for the top of the staff and either a Missouri or Illinois state flag.

Vehicle Will Conduct More Experiments

The second ASSET boost-glide vehicle, designed, developed and built by McDonnell Aircraft, is scheduled to be launched by the Air Force within the next several weeks at Cape Kennedy.

The ASSET will be boosted by a two-stage Thor/Delta rocket for a flight of 2000 miles at speeds in excess of 12,000 miles an hour. This compares with an 1100-mile flight at a speed of over 10,000 miles an hour on the first launch on September 18, 1963, when a single stage Thor booster was used.

More Experiments

The second ASSET vehicle has been configured differently from the first vehicle to enable it to conduct more experiments.

The major test objectives of the second ASSET flight are to obtain additional hypersonic flight data under true environmental conditions and to determine flight path characteristics of lifting reentry flight to correlate with available theoretical and ground test data.

The ASSET flights are designed to provide a great amount of vital information on pressures, temperatures and other conditions encountered in high speed flight at altitudes at which flight data are almost completely lacking. The ASSET vehicle is designed to verify environmental predictions regarding extreme temperatures, pressures and heat transfer rates, to correlate aerodynamic heating, lift, drag and pressure prediction methods and theories, and to evaluate advanced structural design concepts and material usage.

59 Temperature Points

Temperatures will be measured at 59 different points, pressures detected at 35 locations. In addition, six deflection and four acceleration sensors will be providing continuous information. Data from these sensors will be transmitted to ground stations during the flight down the Atlantic Missile Range.

The second flight will be of 15 minutes glide duration. Recovery ships and air-sea rescue units will be supported by Atlantic Missile Range facilities at Patrick Air Force Base, Cape Kennedy, Grand Bahama Island, San Salvador, Grand Turk Island, Antigua and the tracking ship Twin Falls Victory.

Four More Launches

ASSET is a non-orbiting, unmanned flight vehicle designed to test structural and aerodynamic heating conditions during glide reentry into the earth's atmosphere. It was designed, developed and built for the Air Force Flight Dynamics Laboratory, Research and Technology Division. Following this next flight, four more launches of the delta-shaped test vehicle are scheduled through early 1965.

McDonnell is a pioneer in the boost-glide concept, having successfully flown the first such vehicle—Alpha Draco—at speeds of ap

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World's Fair Tickets Will Be Available at Discount Prices

Special discount tickets for daily general admission to the New York World's Fair have been ordered as a result of the response by McDonnell people to a February Airscoop article and printed coupon. These tickets will be sold through the cashier's office in Building 1 on a first-come, first-served basis. The exact date of their availability will be posted on the bulletin boards. Adult discount tickets will cost \$1.35, children's tickets, 67½¢. These prices are the actual costs to the company.

County Bond Issue Vote March 3

12 Separate Propositions On Ballot

St. Louis County voters—including many McDonnell Aircraft employees—will go to the polls in a special election on Tuesday, March 3, to vote on 12 bond issue proposals for a variety of public improvements. Approximately 400 polling places will be open from 6 a.m. to 7 p.m.

Total amount of the bond issue is \$104,035,000. The 12 propositions, along with the amount of each, are listed in the box at right.

Ballot Information

All 12 propositions will be on the ballot by proposition number.

Each proposition must be voted on separately; there will be no "straight ticket" voting.

To vote in favor of a proposition, the voter must pull the voting machine lever which registers an "X" mark in the square opposite the word "YES." If opposed to a proposition, the "X" mark would be registered in the square opposite "NO."

For a proposition to pass, it must receive a two-third majority of the votes cast. In other words, to pass it must receive at least two YES votes to every NO vote.

Cost to Taxpayers

According to spokesmen for the St. Louis County Bond Issue Citizens Campaign Committee, passage of the bond issue in its entirety would cost taxpayers an average of 22.73c per \$100 of assessed valuation for 23 years and at no time during the life of the bonds would this bond issue tax rate exceed 24c.

Such an increase, according to the committee spokesmen, would mean that the owner of a \$15,000 home would pay an additional \$11.50 a year, or 95c a month, or about 23c a week, or approximately 3c a day for the \$104,035,000 of improvements; the owner of a \$30,000 home would pay \$23 a year, or about 7c a day.

The tax levee, the committee points out, is based on the following assumptions: (1) that the county continues its tax base growth at the rate of 4% per year; (2) that tax collections would run 95%; (3) that the bonds will be sold at an interest rate of 3½%; (4) that each bond issue would run 20 years; (5) that no more than \$12,000,000 would mature in any one year.

First Since 1955

This will be St. Louis County's first general bond issue election since 1955.

It is interesting to note that in the seven years immediately following that election (1956 to 1962), employment in manufacturing in the county increased 25%; retail employment rose from 16,900 to 30,500; the number of manufacturing plants increased 30%; public school enrollment virtually doubled.

The number of passenger autos registered in the county increased from 191,900 in 1956 to 300,000 in 1963. Trucks increased from 17,000 to more than 25,000.

Population Growth

It has not been possible for the services and facilities provided by

12 Bond Issue Proposals in Brief

No. 1 County Roads

\$41,967,000

This bond issue will provide funds for 37 road projects distributed equally in North, Central and South sections of the county. Roads and streets which would be affected in North section, where McDonnell Aircraft is located, are listed in story below.

No. 2 Innerbelt Expressway, Right-of-Way Purchase

\$25,000,000

This project of vital interest to many McDonnell personnel who drive to work is discussed at length in the story below.

No. 3 County Courthouse-Administration Building

\$12,066,000

This would provide a new 13-story business building with four parking levels to accommodate approximately 1200 automobiles, and also the remodeling of the existing 1950 Courthouse building in Clayton. The new building would eliminate much of the \$150,000 the county now pays annually for rented quarters.

No. 4 Parks and Recreation

\$8,000,000

This bond issue would provide one large 350-acre park each in South, Central and North County plus 20 smaller parks throughout and would also enlarge and improve existing parks. Land now available for parks at approximately \$3,000 per acre will increase in price as time passes.

No. 5 County Hospital

\$844,000

Expansion and improvements are needed in order that the hospital can accommodate the county's tremendous growth in population. The hospital's emergency room, for instance, has had no changes or additions in 32 years.

No. 6 Voting Machines

\$1,200,000

500 additional voting machines are needed if the county is to conduct the 1964 general election in an orderly and efficient manner. The existing 779 machines have been ruled illegal unless equipped with vertical adapters.

No. 7 Incinerators

\$5,000,000

Two modern, architecturally attractive, sanitary and efficient incinerators would be constructed on industrial sites to provide solution to a real problem: The county's present landfill system of refuse disposal will soon overflow; new sites further away will increase costs; there are increasing restrictive measures against dumping in such neighboring areas as Illinois and Jefferson County.

No. 8 Juvenile Court and Detention Home

\$1,800,000

This would provide for acquisition of suitable land and construction of new facilities to replace the present building and facilities which are overcrowded and inadequate in design and

construction for efficient supervision.

No. 9 Lakeside Center for Boys

\$418,000

This juvenile residential treatment center, in Creve Coeur, for mildly disturbed boys with high potential for improvement in a modern treatment setting is in need of two additional cottages for 16 boys each, plus other additions and improvements.

No. 10 Health Department

\$500,000

The current operation from locations in Clayton and Ferguson would be replaced by three centers, one each in the North, West and South sections of the county, and the Central District Headquarters would be completed.

No. 11 Police Department

\$240,000

Three permanent district stations in strategic North, Central and South County would be established. This would do away with the present small, makeshift, poorly located district stations.

No. 12 Columbia Bottoms

\$7,000,000

The Columbia Bottoms Industrial Park site at the confluence of the Mississippi and Missouri rivers (see map) would be provided a network of roads leading to and from the area which now has two existing traffic outlets. Development of this Industrial Park is expected to create approximately 60,000 new jobs in the county.

North-South Innerbelt Expressway, Relief for Treacherous Lindbergh

Hazardous Lindbergh boulevard has long stood as the only continuous north-south artery for automobile traffic in St. Louis County. This road which has claimed many lives is traveled daily by thousands of McDonnell Aircraft people.

Aircoop hereby presents a somewhat detailed discussion of the Innerbelt Expressway in belief that many McDonnell drivers and riders will find this long-anticipated north-south artery more convenient, time-saving—and safer—than Lindbergh.

Proposition 2 of the March 3 Bond Issue election would provide \$25,000,000 for purchase of 15.6 miles of right-of-way for the Innerbelt. This is the section of the highway for which it is expected the state will bear the major cost of construction.

Not included in this proposition is that section of the Innerbelt which the county now is building from Brentwood blvd. to Olive Street rd. with 1955 Bond Issue funds.

the county to keep pace with the county's population growth. The county's population in 1940 was 200,000. By 1950, it had doubled!

There are now approximately 760,000 people living in St. Louis County. Experts in population projections agree that by 1980, the county's population will be 1,200,000, or more than twice the 1960 population of the city of St. Louis.

The Innerbelt is planned to run (see map) between Interstate 270 on the north to Interstate 55 near Union and Reavis Barracks rds., in the south sector of the county, a semi-circular artery of some 20 miles in length and connecting with roads, highways and expressways running generally east and west in the county.

It must be noted, however, that at this time the exact route of the proposed Innerbelt has not been definitely established. Detailed engineering plans are necessary before such a route can be pinpointed.

Going south from Interstate 270, the Innerbelt could pass through Hazelwood, Berkeley, St. John, Charlack, Sycamore Hills, Overland, Olivette, University City, Ladue, Clayton, Richmond Heights, Brentwood, Webster Groves, Shrewsbury and an unincorporated area at the southern terminus.

In the 7-mile stretch between Interstate 270 and Page ave., there could be traffic interchanges at such locations as I-270, Airport and Scudder rds., Mark Twain Expressway, Natural Bridge rd., St. Charles Rock rd., Midland blvd. and Page ave.

The one mile portion of the Innerbelt between Page ave. and Olive Street rd. is included as a \$3,250,000 roadway project in Proposition 1 of the new St. Louis County Bond Issue. This short section would be

built by the county since construction plans have already been prepared.

The 3.3-mile section between Olive Street rd. and the Daniel Boone Expressway will be built with funds from the 1955 St. Louis County Bond Issue. Several construction contracts for this portion of the Innerbelt have already been awarded.

The 7.7-mile stretch of the Innerbelt south from the Daniel Boone to Interstate 55 could have traffic interchanges at Manchester rd., Marshall and Lockwood aves., Interstate 44 south of Big Bend blvd. near Laclede Station rd., Watson rd., Gravois rd. and at Interstate 55.

County highway officials are of the belief that the state would assume maintenance expenses of the completed Innerbelt.

Passage of Proposition 1 of the 1964 Bond Issue would bring improvements to sections of these traffic arteries in North St. Louis County: Airport rd.-Chambers rd., Bellefontaine rd., Dorsett rd.-Midland thoroughfare, Graham rd. and St. Charles rd., Halls Ferry rd., Helen ave. and Jennings Station rd., Kienlen ave., Lilac ave., McKelvey rd., Ross rd., Fee Fee rd., Craig rd. and Lackland rd. extensions, New Florissant rd., New Halls Ferry rd., Page ave. extension, Springdale ave. and Middleway ave., West Florissant ave.



Innerbelt Oriented With Lindbergh, Circumferential Highway

GENERAL PATH OF INNERBELT EXPRESSWAY, for which a major portion of right-of-way (broken line) would be purchased with funds called for in Proposal No. 2 of St. Louis County 1964 Bond Issue, is shown extending north-south across county between St. Louis city limits (dotted line) and Lindbergh boulevard. Solid portion of line, between Daniel Boone Expressway and Olive Street rd., indicates section that would be built from 1955 Bond Issue funds. Joining this section from east is Millbrook Blvd. Extension, one of 37 projects included in Proposition No. 1 of the Bond Issue. (Millbrook Extension would link up with Forest Park Expressway which runs into midtown St. Louis). Shown crossing county west of Lindbergh is path of paralleling Circumferential Highway which IS NOT in any way a part of the March 3 Bond Issue voting. This important highway, which will eventually carry much through traffic away from Lindbergh, will for all practical purposes encircle the St. Louis central metropolitan areas on both sides of the

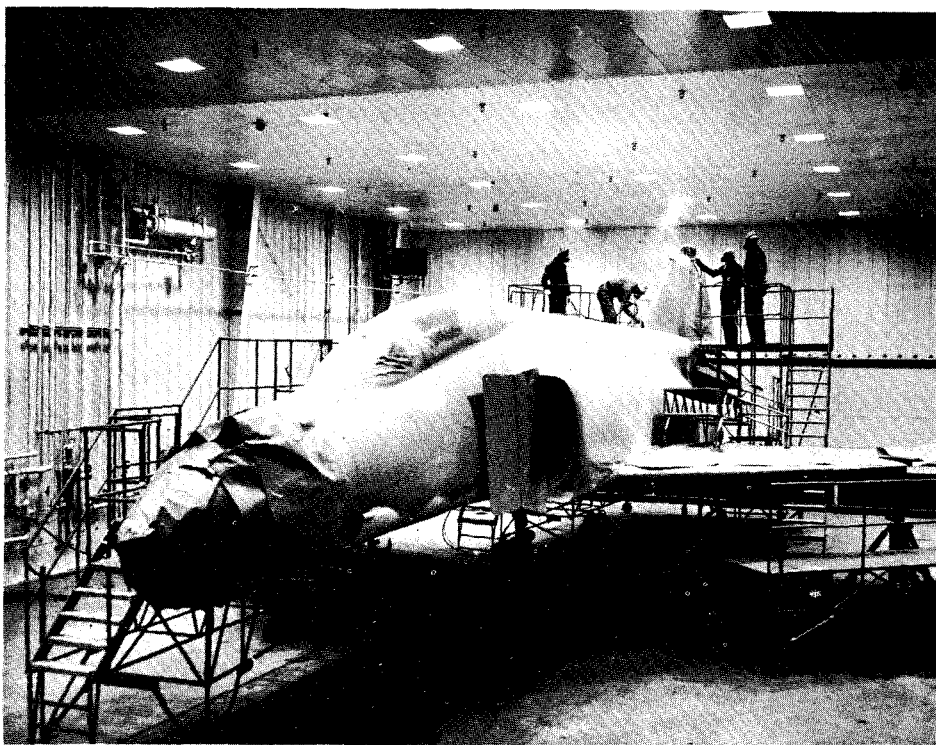
Mississippi. This expressway, mainly a Federal project, designated variously as Interstate 270, Interstate 244 and Interstate 255, will cross the river on the new bridge above Chain of Rocks and extend 38 miles through west central St. Louis county to a Mississippi crossing below Jefferson Barracks. In Illinois, as Interstate 270, it will connect on north with Interstate 55-70, and from Jefferson Barracks crossing, as Interstate 255, it will swing north and east to Interstate 55-70. The Circumferential has been completed on the north from the river to Interstate 70, and for several miles from Chain of Rocks canal east to Illinois Route 111. A 3.8-mile stretch (solid line) is now under construction in the county south from Manchester rd. Dotted line running west from Page-Lindbergh intersection indicates Page Avenue Extension, which is a proposed state project as far as Circumferential, and is included as a right-of-way project under the Bond Issue's Proposition No. 1 from the Circumferential to the Daniel Boone Expressway.

Phantoms Now Being Painted in New Ramp Booths

An F-4C Air Force Phantom, gleaming with new body paint and insignias, rolled out of ramp paint booth No. 1 at McDonnell on Feb. 21. It was an occasion that would be repeated many times after the seven companion paint booths become operative in the near future.

Work was begun on the new booths last June. The facility, with two stories and mezzanine, encompasses a total of about 50,500 square feet of floor space. Each booth is approximately 50 feet wide, 100 feet deep, and 20 feet high, with the back wall taken up by water wash equipment. Each has a drain trench running down the center of the floor.

The service section includes a paint mixing area with spark-proof, grounded floor, plus boilers, furnace, steam heaters and other equipment for providing steam, hot water, and warm air needed in cleaning and drying processes.



RAMP PAINT BOOTH NO. 1 of a new McDonnell facility is the scene. An F-4C, its nose, canopy and intake ducts covered, becomes the first plane to be painted in the new complex of eight booths north of Hangar 45.



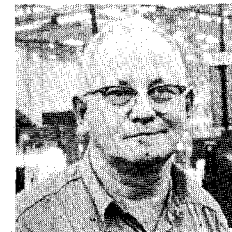
INQUIRING REPORTER

QUESTION: As you know, sharing the ride with at least two other people is the answer to the critical parking problem here at McDonnell. Have you found any advantages in sharing the ride?

THOMAS HENDERSON, Planning, Administration-Spacecraft: "Sharing the ride is better for two reasons. We get a better place to park and we don't have to fight the traffic as often. On the days we don't drive, we can just sit back and relax. To me, sharing the ride is the only way to go to and from work."



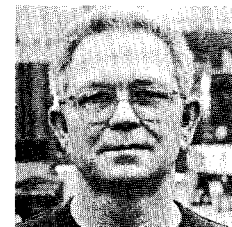
CHARLES GOVORO, Lathe Operator, Lathes: "I've been sharing the ride with about 30 other people for three years. I ride a private bus. It gets the best parking space, near the door of the building where I work. I never have to walk over the parking lot for any distance. The bus always gets out of the parking lot in a hurry too. It's slower on the highway than autos. But because of the quick exit at the end of the shift, I get home at about the same time as I would if I drove my car."



ROSELLA SAETTELE, Clerk-typist, Training: "I'd rather leave our family car at home and ride with someone else. And that is what I usually do. I could use it and take up a space. But I've found it's more convenient and less costly to ride with someone than to drive. Since there are five of us in the car, the driver gets a better parking place and we don't have far to walk from the lot."



ARLON SHAW, Utility Worker, Milling Machines: "I'm also sharing the ride on a private bus. And, as a result, I've never missed a day of work because of bad weather. No matter what it is, rain, snow or ice, the bus always makes it. As you know, in a car, this can be tough driving in bad weather. I'd rather ride the bus, and I have been for the last two years. I think the bus is quite a bit safer, too."



LOYDE HARTMAN, Expediter, Spacecraft Capsule Assembly: "There are three of us in our ride group. We started sharing the ride because it's economical. I drive once every three days instead of every day and this saves money. And, because there are three of us in the car, we get a better parking space at the plant, too."



RAY HUDDLESTON, Machinist, Lathes: "I have a car and I've been in car pools, but now I ride a private bus. Without a doubt, it's the best way. It's dependable, it's safe, and it's comfortable. When I'm on the bus, I can take it easy, talk to other people, or I can read."



MCDONNELL

Airscoop

"It ain't the individual . . .
nor the outfit as a whole . . .
but the everlasting teamwork
of every bloomin' soul."
—Kipling

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To County Voters

All McDonnell personnel of voting age who reside in St. Louis County have an obligation on Tuesday, March 3. It is their duty as public spirited citizens to vote in the County's \$104,035,000 bond issue, whose 12 proposals are presented for study and consideration elsewhere in this issue of Airscoop.

More than 400 polling places will be open from 6 a.m. to 6 p.m. It will, of course, take a little trouble, a little energy, a prick of the conscience to get some qualified voters to the polls regardless of the significance of this election. But keep in mind the frequently-heard saying about the person who doesn't exercise his franchise: If you don't vote, you have no logical right to criticize, no matter the outcome of the election. Voting individual beliefs is one of the precious gifts of a democracy. Let us not neglect this heritage regardless of whether it is a village, county, state or national election.

Gen. Estes Speaks

Reliability of product being a subject of prime concern to all of us at McDonnell, we would like to commend and recommend a recent address by Lt. Gen. Howell M. Estes, Deputy Commander of the Air Force Systems Command. Speaking at the National Symposium on Reliability and Quality Control, in Washington, Gen. Estes dealt calmly but dramatically with the need for ever-increasing reliability in weapons and space systems. Reliability improvement, he made it clear, can come only from unrelenting study and hard work.

Here are several key excerpts from Gen. Estes' address:

"Today's military forces must be capable of both instant and flexible response. In any surprise situation demanding the application of military force, our national leaders must know they can bring to bear the exact power level selected at the exact time desired in the exact location and environment where needed . . . Our dollar resources must be husbanded more closely than ever before . . . Equally as critical as dollars are our resources in manpower . . . With the advent of space systems, we have established a need for a new order of ingenuity in our thinking about reliability and a vast improvement in our practice of it . . . Progress we have made to date in system reliability, though notable in many instances, has simply not been adequate in an over-all sense."

Gen. Estes went on to cite several examples of reliability failures, among them . . . "Failure of a \$2 item in the launch of a space system not long ago caused the loss of a \$2.2-million vehicle. In another

space program, the failure of a \$5 thermal shield that was poorly designed and inadequately tested resulted in a \$23 million disaster . . ."

This was really laying it on the line. The message is eminently clear.

Perseverance

There are more in our midst, it is hoped, like Richard I. Davis, who recently became an apprentice maintenance electrician. Richard devoted four and a half years to acquiring the equivalent of 8000 hours on-the-job training, plus 880 more hours in classroom training at a technical school. The real part of the story, however, is that he set out after another and more beneficial career even after he had already worked at McDonnell for 10 years as a storekeeper and material receiver.

The rewards of Richard Davis' ambition and stick-to-itiveness are here at McDonnell for others. The Maintenance Electrician Apprentice program which he completed is but one of four on-the-job apprentice programs here. Others are: Tool and Die; All-Around Machinist; Mechanic, Electrical-Electronic. Further information may be obtained from the Training Department. The Davis-like perseverance, however, is up to the individual.

Assuring News

A recent assignment to accompany a reporter on a tour of our company's Quality Assurance activities proved a revelation. We had always been generally aware of the importance management attached to Quality Assurance, but it took one Zenas Joseph Varney, General Supervisor of Quality Analysis, to bring these activities into proper perspective.

Joe Varney is a walking encyclopedia on his field of endeavor and it's a moot question whether he walks or talks faster while in pursuit of his favorite subject. In this instance, he devoted several hours to explaining the all-encompassing activities of the Quality program that assure delivery of a quality product. His stops included the Metrology Lab, Process Control Lab, Physical and Functional Lab, Quality Planning, Quality Engineering, Quality Audit, and Product Verification functions. He called attention to Quality Assurance in processes, in machines and in documentation. The reporter got the correct impression that Quality Assurance was everywhere. Shattered was his old belief—the popular concept—that Quality Assurance is merely an inspector seated at the end of a bench and checking each passing item.

One Point Of View

"We needed fighter aircraft to support a massive invasion. We were terribly short of fighter aircraft. We moved them from all over the country into the Southeast area and we still were short."

Defense Secretary Robert S. McNamara was being quoted in a recent United Press International dispatch from Washington. He was recalling the Cuban crisis that confronted the United States in the fall of 1962. Being reported for the first time was testimony that Secretary McNamara gave in November 1963 before the Atomic Energy Commission. He was before the AEC defending his decision to build a conventional aircraft carrier instead of another atomic powered one.

Other Shortages Cited

The Secretary of Defense dwelt at length on the nation's military needs at the time of the Cuban crisis. Shortages in fighters and other aircraft as well as in certain types of seacraft were among important handicaps which he pointed out.

Mr. McNamara's reference to a shortage of fighter planes points up the importance of the McDonnell Phantom, the world's fastest fighter plane. This is the plane that the Navy and Marines are proudly flying in larger quantity than they had in the autumn of '62. This is the fighter that in the immediate months ahead will go into operational squadrons of the Air Force. It is the F-4C version of the Phantom that the Air Force is purchasing in large quantities over the next four years.

All of this emphasizes the importance of getting the Phantoms to the Air Force on schedule. The sooner they are delivered, the quicker they can get into the skies as

part of America's deterrent power in the case of further international crises like that of 1962 Cuba.

Remember the Voodoos

It seems advisable at this point to refresh the memory on Cuba of some 15 months ago. On Cuban soil were Russian missiles, pointed in the direction of the United States. The missile evidence, it is to be remembered, was brought back by McDonnell-built Voodoos which made low-level reconnaissance runs over long-range missile bases in hasty buildup.

And now, with the importance of delivery on schedule further underscored, there follows a word of caution. There is a tendency to regard the matter of delivery schedules as a company responsibility. In final analysis, however, they are a responsibility shared by all personnel on a particular project. It is vitally important that the Air Force gets its Phantoms on schedule. It is equally important that our Gemini and ASSET spacecraft also be delivered on schedule to NASA and to the Air Force respectively.

Many Ahead of Schedule

The history of McDonnell Aircraft is full of reports of prompt delivery of products to the customer. Many are the instances of deliveries ahead of schedule. It is a good record.

Perhaps, periodically, all of us should refer again to Secretary McNamara's words as we think about our job and our future, and our company and its future:

"We needed fighter aircraft to support a massive invasion. We were terribly short of fighter aircraft. We moved them from all over the country into the Southeast area and we still were short."

From The Editor's Desk

It has been approximately six months since McDonnell personnel received copies of the company's annual report for fiscal 1963. This report was chock full of facts about company achievements and activities that should be of interest to each and every employee.

It might be fun, we thought, to turn a few of these facts into a little game, a test of retention, if you will. So without referring again to the report, see how many of the following questions you can answer before your eyes stray to the answers at the close of this column.

1. What is the ferry range of the Phantom?
2. With approximately how many subcontractors and suppliers did our company do business?
3. In July, McDonnell purchased what company in Denver?
4. How many flight-rated Gemini Spacecraft are we building under

our contract with NASA?

5. Facilities expenditures reached what amount in fiscal 1963 and are expected to be about what amount in fiscal 1964?
6. Sales for fiscal 1963 amounted to how many million dollars?
7. Fiscal 1963 marked the first flight of what McDonnell plane?
8. How many Asset glide re-entry vehicles are we building?
9. Our Model 188E Military STOL Transport is a development from what French prototype?
10. At what distance from its home base can the Phantom intercept hostile aircraft?

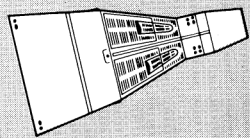
ANSWERS: (1) Over 2000 statute miles; (2) 4,000; (3) Denver Electronic Computing Service; (4) Thirteen; (5) \$20,000,000 and \$24,000,000; (6) \$565,000,000; (7) F-4C; (8) Six; (9) Breguet Model 941; (10) More than 900 statute miles.

Plant Appearance

All furniture to be maintained in proper alignment . . . After office hours, all items except phone, empty mail basket and ash tray to be removed from desk tops . . . Tops of all file cabinets to be kept clear at all times . . . When a drawing board light is required, no items are to be taped or otherwise fastened to it . . .

These are just a few of the plant

appearance standards which are going to be rigidly enforced in office areas throughout the plant. Office and factory orderliness are going to play a more important role in McDonnell efficiency than ever before. So let's all get the jump on ourselves and start housekeeping early. For the complete list of rules and for assistance in how to comply with them call 2188 or 2189.



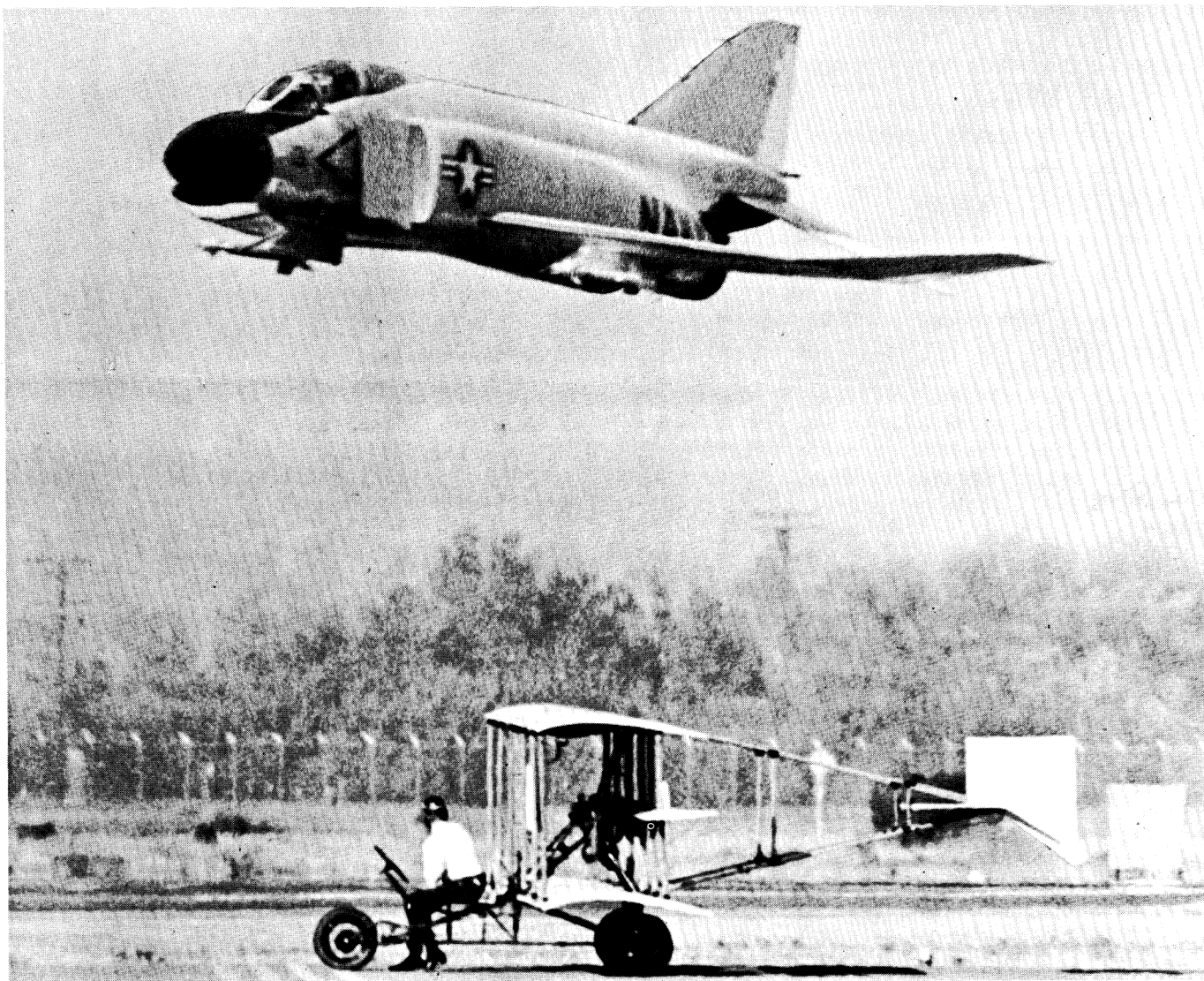
PICTURES



PHANTOMS in flight, in cold storage

MCDONNELL-BUILT PHANTOMS have the spotlight or share it in these photos. Historical contrast is immediately evident (right) as a Navy F-4B streaks above replica of a 1911 Curtiss Pusher biplane which is poised for take-off by its owner-pilot. The supersonic Phantom was the fastest plane and the biplane the slowest to appear at the annual Point Mugu Space Fair near Oxnard, Calif.

The Air Force's F-4C No. 2 gets an inspection while it undergoes tests in sub-zero temperatures (below, right) at climatic hangar at Eglin Air Force Base, Florida. The Phantom, which successfully withstood temperatures up to 65 degrees below zero, has since been removed to Wright-Patterson Air Force Base, Dayton, O., and will then go to Edwards AFB in California for more Category II testing. F-4C No. 3, meanwhile, was flown in early January to Fairbanks, Alaska, for outdoor sub-zero tests. Lee Clapper and Ken Eichorn, McDonnell Field Service representatives who were at Eglin during tests on No. 2, are shown below checking over cockpit area of No. 3 after one of its first flights at Eielson Air Force Base. Clapper is at right. The F-4C is equipped with test instrumentation capable of measuring 56 pressures and 110 temperatures every 20 seconds. The term "cold soak" is applied to leaving the aircraft in the open—with temperature at least 20 degrees below zero—during the test period. A minimum of 16 hours of "cold soak" will precede each scheduled flight.



Surrealist Touch In Gemini Welding

Rubber arms extending from weld chamber provide a surrealist touch in Gemini manufacturing area in Building 102. Troy Glendening is the goggles-wearing welder with arms extended in pair of the reversible rubber gloves while he does hand fusion welding of titanium. Application of the welding chamber has speeded Gemini production at McDonnell. After the weld fixture containing the production is put into the weld chamber, the chamber air is purged by inert argon gas and the welder outside the chamber makes the fusion weld like a doctor performing an operation in an antiseptic environment while wearing a mask and rubber gloves.

MCDONNELL AIRSCOOP

Personnel
NEWS

Edited By

Personnel Division

Training Department

with the cooperation of the

Photographic Laboratory Staff

February Retirements

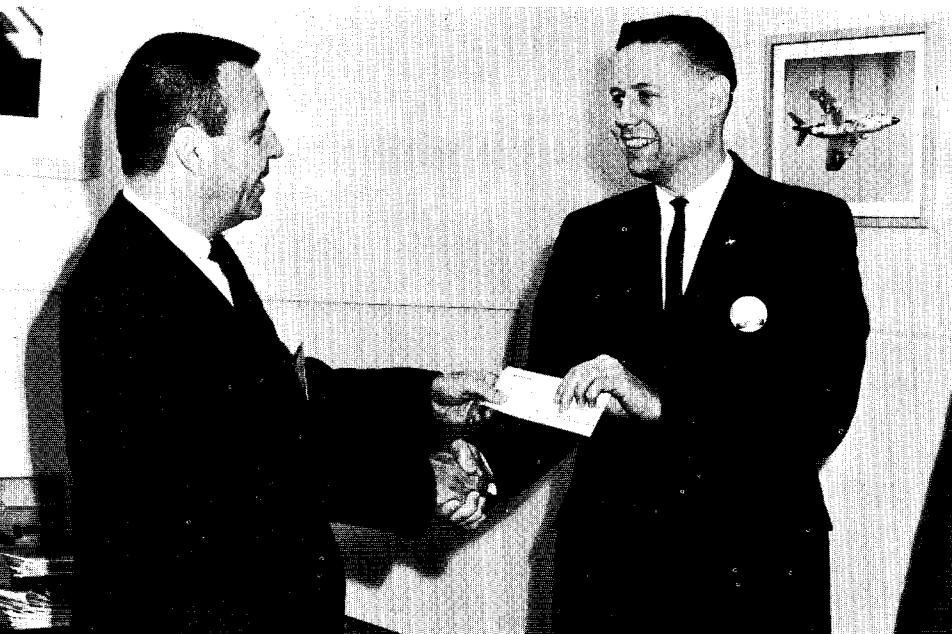
Occasional travel and part-time carpentry work are included in the plans of Leo Eck who is retiring with more than 16 years service. A Jig and Fixture Builder at McDonnell, Eck spent the last 12 years in the Structural Laboratory Shop. He started with this company in August 1947.

Clarence Bush's immediate retirement plans include a visit to his son in Texas. Employed as a Power Shear Operator, Bush started at McDonnell in November 1947. He was a member of Stores and plans to spend his retirement years at his home in St. Charles. His hobby is traveling.

Emile C. Maffrand started with McDonnell in August 1948 as a Milling Machine Operator in Building 1. In 1950, he moved to Building 27 as a Milling Machine Operator, the job held until his retirement. Maffrand said he plans to travel with his wife, Helen, after retiring, then settle down in Overland, where he'll keep busy gardening and fishing. He had worked in small machine shops before coming to McDonnell, but he said his "best years were here at McDonnell."

Otto Kroll came to McDonnell in August 1951 as a Utility Worker. In 1952, he became a Drill Press Operator, and two years later was promoted to Fitter, Metal Sheet and Bench. Kroll plans to spend his retirement working around his home in Robertson. Both he and his wife also enjoy fishing. Kroll worked in Weld and Steel Fabrication.

Jesse Margeson also was employed in Weld and Steel Fabrication. He started at McDonnell in October 1951. Margeson plans to move to a small farm near Kane, Ill. During his more than 12 years here he was a Fitter, Metal Steel and Bench, in Building 27.



TUITION REIMBURSEMENT check for earning a Master's Degree under the provisions of the College Study Program is presented to Morton T. Eldridge, (right) Assistant Sales Representative, by Clinton E. Sadler, NASA Sales Manager. McDonnell employees may receive from 50 to 100 per cent reimbursement on college credit courses provided the course or curriculum is related to the job, and satisfactory grades are made.

McDonnell-Sponsored JA Companies

They Teach Free Enterprise Principles



WITHOUT SALES, every business would crumble. Here, members of the "Mrs. Gleam" company plan sales strategy, with assistance from adviser John Wild of Missile and Spacecraft Contracts. Bottles contain detergent-soaked pads.



PRODUCTION LINE HUMS with activity as Junior Achievers assemble and finish mahogany spice racks under watchful eye of adviser Vic Gruer, senior engineer, Material and Process Development.

Through five McDonnell-sponsored Junior Achievement companies, about 80 high school boys and girls are being taught the principles of free enterprise through actual practice of free enterprise. Meetings are held each Thursday night at the Junior Achievement Center at the St. Ann Public Library.

The activities involved in these Junior Achievement companies are similar to those of any company. For instance, these teenagers last fall selected a product to manufacture, sold stock, obtained the raw materials for the product, and be-

gan manufacturing. Each company has its own quality control and safety sections; when the finished product rolls off the assembly line, a sales staff takes over. An accounting group keeps a close watch on sales, and keeps the company's teen-age president informed on profit and loss.

These high school students conduct every facet of the business, including the preparation of a financial report in the spring, their final responsibility. But, in the background, from start to finish of the products, is a group of McDonnell employees who serve as ad-

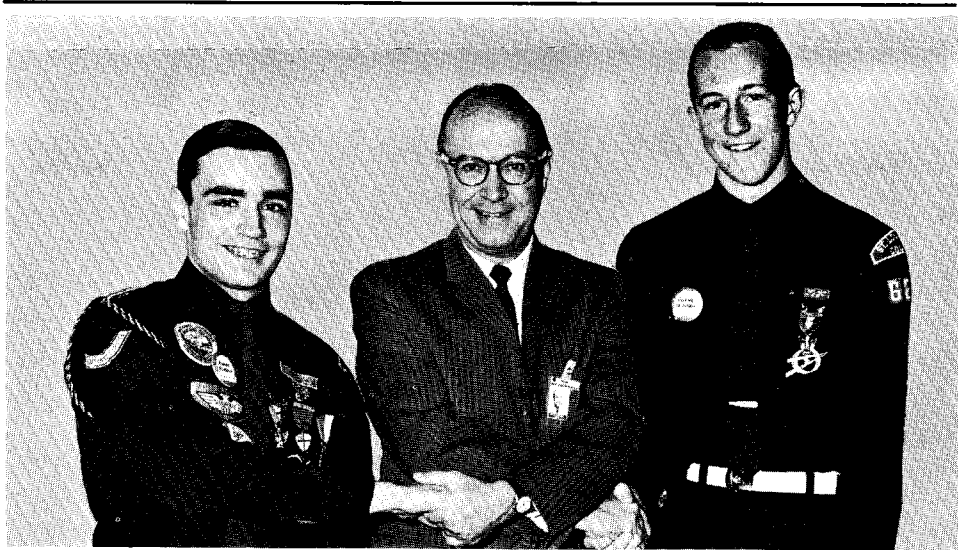
visers. These people first receive adviser training, then attend all meetings, and help guide the young people over the rough spots.

Serving as advisers are: F. A. Baker, Material Handling; K. E. Devine, Reliability; John Fussner, Spacecraft Capsule Assembly; Paul Gross, Weights; V. J. Gruer, Material and Process Development; Dick Hefelfinger, Reliability; L. H. Lasley, Systems and Procedures; W. J. Neff, Spacecraft Capsule Assembly; D. D. Palmer, Electronics Equipment Division; J. C. Restelli, Navy Aircraft Contracts; J. E. Wild, Missile and Spacecraft Contracts.

1964 PROMOTIONS - TRANSFERS	
(Total to Feb. 16)	
Promotions Within Salaried Employees.....	87
Promoted to Salaried Employees.....	29
Promotions Within Hourly Employees.....	1,057
Transfers Within Hourly Employees.....	222

Employee Trains Firemen

James D. Conner, Manufacturing Assistant - Field at McDonnell's Cape Kennedy facility and an authority on SCUBA (Self-Contained Underwater Breathing Apparatus) diving, spent over 50 hours of his own time training Cocoa, Fla., firemen in the art. The training enables the city firemen to handle diving activities in drowning and other water rescue mission needs.



MACTIVITIES

ACTING: 3rd Thurs., 7 p.m., Old Country Day School.

ASTRONOMY: 1st Tues., 7 p.m., members' homes.

BODY BUILDING: 1st shift, Mon. & Wed., 5 p.m., Old Country Day School. 2nd shift, Mon., Wed. & Fri., 2 p.m., Old Country Day School.

BOWLING: 1st, 2nd, 3rd shifts men's and women's leagues bowling, Mon. thru Fri.

BRIDGE: 1st & 3rd Wed., 7 p.m., Village Square.

CHESS: Wed., 7 p.m., Bldg. 33 auditorium.

COIN & STAMP: 2nd Tues., 3rd Thurs., 7 p.m., Natural Bridge Branch of County Library.

JUDO: 1st shift, Mon. & Wed., 6 p.m., Old Country Day School. 2nd shift, Tues. & Thurs., 10 a.m., Old Country Day School.

MUSIC TAPE: 1st Sunday, 2:30 p.m., Northland Music Center.

MODEL AIRPLANE: Radio-Control, 4th Wed., members' homes. U-Control, 1st Sunday, members' homes.

PHYSICAL FITNESS: Women-Wed., 7 p.m., Vogt Elementary School. Men-Wed., 7 p.m., Ferguson Jr. High.

RIFLE & PISTOL: Tues. & Wed., 7 p.m., Washington U.

ROCKHOUNDS: 1st Tues. & Wed., 3rd Tues. & Wed., 7 p.m., Rockhound Supply.

ROD & GUN: 1st Wed., 7 p.m., Natural Bridge Branch of County Library.

SINGING: Thurs., 7 p.m., Bldg. 33 auditorium.

SPORTS CAR: 1st Mon., 7 p.m., Wayfarer Inn.

TABLE TENNIS: Tues. & Wed., 7 p.m., Old Country Day School.

TENNIS: Tues., 5:15 p.m., Ferguson Jr. High.

TOASTMASTER: No. 1-1st & 3rd Mon., 5:15 p.m., Bldg. 1, Room 100. No. 2-2nd & 4th Tues., 5:15 p.m., Bldg. 1, Room 100.

TOASTMISTRESS: 2nd Mon., 5:15 p.m., Bldg. 1, Room 100.

(For further information, call Recreation, 2336-2337)

TEN ST. LOUIS EAGLE SCOUTS voted to spend their Eagle Scout Citizenship Day at McDonnell where they were named honorary executives of the company. During the February 10 program, the scouts first attended a company orientation briefing, then toured facilities. Here, posing with R. C. Krone, Vice President - Personnel, at start of program are (left) Randy Winship, son of Frank Winship, Manager, Product Support Engineering, and Duane Vaughan, son of Gerald Vaughan, assistant foreman, Fabrication.

Champs Again!

Notching an 8-0 record along the way, McDonnell's entry in the St. Louis Industrial Recreation Council Basketball league has won the league championship for the third consecutive year. Vince DeBlaze, Administrative Engineering, lead all scorers with a 28.1 point average. Other members of the squad: Tom Weinrick, Aircraft Contracts; Bill Menkhus, Tool Design; Wayne Waters, Spares Control; Bret Booker, Forward Fuselage Assembly; Jerry Chenevert, Final Assembly; and Al Reece, Stores. Bill Albers of Production Control, EED, was the coach.

Cost-Saving Ideas Win \$1,355 for 21

Two suggestions which brought about major cost reductions highlighted the January Suggestion Awards ceremony in which 20 employees received checks totaling \$1,355.

Tonco Grooms, Sheet Metal Assembler and Riveter, Final Assembly, received \$350.35 for his idea of using a nylon brush chucked in a drill motor to clean sealant out of threads and anchor nuts. Previously, paper clips and wires were used to pick the sealant from the threads.

When James B. Adcox, Tube and Cable Mechanic, Mock-up, first submitted his idea for a portable tube bender in 1956, there was no widespread need for it. When a need developed, Adcox resubmitted his idea. Instead of taking tubes to a stationary bender, Adcox's tool makes it possible to take the bender to the tubes which are installed on the aircraft, thus saving time. Adcox received \$307.54 for his idea.

The two ideas brought about cost reductions which will be reported to the Corporate Cost Reduction Committee.

Other Suggestion Program award winners were: H. L. Anderson and Randall D. Rhodes, Dept. 156; Glen B. Jacoby, Elbert R. Kennon, and Walter L. Painter, Dept. 177; Donald L. Alcorn, Dept. 178; Charles A. Boschert, Delbert H. Freese, Albert L. Fries, B. J. Tilley, and Homer L. Zigler, Dept. 179; Pat Mathis, Dept. 181; Jerry J. Heller, Dept. 188; Marvin Weiss, Dept. 258; Wm. Schmidt, Dept. 260; Lavern Flanigan, Dept. 782; William H. Steinmeyer, Dept. 783; Russell Bruenger, Dept. 845.

Group Insurance Record Of \$4,600,000 in '63

McDonnell employees and their dependents received a record \$4,600,000 in benefits in 1963 through the McDonnell Group Insurance Program. The record amount was paid on almost 33,000 claims. Hospital benefits for employees' dependents accounted for almost half of the sum, \$2,171,000. Hospital benefits for employees alone totaled \$1,234,000. Weekly sickness and accident benefits reached \$437,000, while death claims and accidental death and dismemberment claims accounted for the remaining \$758,000.

McDonnell's Seventh Cafeteria Opens



SHARING TABLE at their first luncheon in the new Building 101 Mezzanine cafeteria are (from left) Margie Shick, Marilyn Leisher, Pearl Hathaway, Ruth Walker and Carol Bryan, all from the Electronics Equipment Division. Cafeteria's dining area is marked off with multicolored screens and floral planters.

Color catches the eye in McDonnell's newest cafeteria, located on the Mezzanine of building 101 and opened for service Feb. 17. The cafeteria, with a dining area seating capacity of 500, is the company's seventh and is one of two cafeterias in Building 101.

The new cafeteria now serves employees located on the Building 101 Mezzanine, and eventually will serve personnel who will occupy Building 106, now under construction. There will be a connecting corridor from the new building to the mezzanine cafeteria.

George Roberts, Manager of Food Operations, noted that color is used liberally throughout the new cafeteria. "The bright, cheerful dining area is divided by floral planters and multicolored screens," Roberts pointed out. "The north wall is terra cotta tile. Even the color of the wall panels matches the floor tile."

Kitchen and serving equipment for this new cafeteria is custom designed. Like the cafeteria on the first level of 101, the mezzanine cafeteria also features the "open square" supermarket-type serving areas. This concept eliminates the continuous food lines. Instead, employees are able to serve themselves at individual, island-like serving areas, thus speeding up serving time.

Red Cross Assists McDonnell Employee

Help arrived quickly for Roger Laughlin after his home in Troy, Mo. was destroyed by fire on a Sunday night early in February. Laughlin, his wife, and five boys all escaped injury but they lost practically all their personal possessions.

After the fire, Laughlin, a Storekeeper in Building 27, was faced with the immediate task of finding shelter and clothing for his family. He relocated his family in a small house; friends and relatives helped where they could.

At McDonnell, Frank Ker, Supervisor of Personnel Welfare, called the Red Cross for assistance. After meeting with Laughlin and Ker, a disaster representative of the Red Cross arranged to pay a month's rent on Laughlin's temporary home, and he gave Laughlin a check to purchase clothes for his five children at a department store of his choice.

Laughlin is a member of the McDonnell Personnel Charity Plan which last October contributed \$445,000 to the United Fund. The Red Cross is one of the 116 United Fund agencies.

Granville Re-elected

Bert Granville, Supervisor of Recreation, was re-elected president of the St. Louis Industrial Recreation Council at the council's February meeting.

Bowling Tourney

With a record number of entries, the 12th annual McDonnell bowling tournament is now in progress at Spencer's River Roads Bowling Lanes at the River Roads Shopping Center. The tournament began on Feb. 23 and will continue through March 8. McDonnell MACTivity Bowling League members are competing for prizes and trophies.

They're Owners of Champions



Hunters everywhere say that a good gun dog is worth its weight in gold. If this be true, then Ray Trimble (above, left) and Frank Vandeven (right) have small fortunes in champion field dogs. A Development Engineer on the F-111 project, Trimble poses with his Crab Orchard Duke, the American Kennel Club's recent Brittany National Field Champion. Duke was acquired in 1957 and trained by Trimble for the championship which can be compared roughly to a World Series of Brittany dogdom.



The pride and joy of Frank Vandeven, a Mechanic-Electrical and Electronic, is Missouri Creek Buck, a Field Champion Beagle who in one day won three trophies, an accomplishment no other beagle in the Midwest has been able to match. Vandeven has been selectively breeding beagles for the past 17 years. He can trace the blood lines of his "Missouri Creek" beagles from the time they arrived here from England in the 1880's.

TWENTY YEAR SERVICE ANNIVERSARIES		
Engineering Administration Division		
Edward E. Lauer	Feb. 24	
General Engineering Division		
Edward F. Greene	Feb. 23	
Gene A. Kunznick	Feb. 23	
William W. Mattis	Feb. 29	
Emil G. Szabo	Feb. 16	
Plant Engineering		
Anthony D. Bange	Feb. 21	
Weldon G. Khorll	Jan. 31	
Robert Loeffler	Jan. 24	
Production Shops		
L. C. Brandhorst	Feb. 11	
M. R. Thurber	Feb. 5	
John C. Toennies	Jan. 21	
William B. Tyon	Feb. 25	
John C. Williams	Jan. 17	
Production Support Division		
John J. Petersen	Feb. 17	
Quality Assurance		
John S. Parker	Jan. 18	
Space & Missile Engineering Division		
Ralph G. Lentz	Feb. 3	
Tooling		
Oliver W. Barnes	Feb. 17	

Cape Kennedy Anglers Land Three Whoppers

Roy Grillion, General Foreman at Cape Kennedy, recently caught two prize channel bass in less than two hours in the Banana River near his home at Satellite Beach, Fla. Both weighed in at 24 pounds and were 40 inches in length. (An average channel bass weighs about ten pounds, seldom 20, and 30 pounds is rare.) One week later, Roy's wife, Marge, fishing at the same spot, caught a 22-pounder.

News Wanted

Personnel News is hunting headlines about you. McDonnell employees make news on and off the job, and we want it! Send your news to Personnel News, Dept. 63, Bldg. 3, or call extension 4753.

MAC 1397 (REV. 23 OCT. 63)						
CLOCK	NAME	CHARITY ①	CITY EARNINGS	CITY TAX ②		YEAR
999999	DOE, JOHN J.	28.60	5616.00	56.16		1963

STATEMENT OF EARNINGS TAX WITHHELD AND CHARITY TRUST CONTRIBUTIONS.
THE ABOVE CITY EARNINGS TAX WAS WITHHELD FROM YOUR WAGES DURING THE CALENDAR YEAR.
IT IS DEDUCTIBLE FOR INCOME TAX PURPOSES.

AIRCRAFT

A. C. PERSONNEL CHARITY
CHECKS OBTAINED BY THIS
ORGANIZED CHARITABLE
TRUST AN INVESTMENT IN
MCDONNELL AIRCRAFT

Norma E. Uliano
1964

Form contains cards which go to the Charity find them in hood charity. The cards tributions are through Mc-

Ketcherside Judged Toastmaster of Year

Jerry Ketcherside, administrative assistant, Engineering, Customer Specifications, recently won the McDonnell "Toastmaster of the Year" award in a final speech competition. He was one of four winners of preliminary contests held by the two McDonnell Toastmasters clubs.

Ketcherside

Finalists from Toastmasters Club 2753 were Robert Baker, Systems and Space Simulation Laboratory, and Ketcherside. Club 2389 finalists were Robert Saxe, Electronic Systems Engineering - Aircraft, and Cecil Moore, Project Design and Integration - Space and Missile.

Judges for the finals were Kendall Perkins, Vice President-Engineering; R. J. Baldwin, Vice President-Aircraft Engineering; G. S. Graff, Vice President-Engineering Technology; R. C. Krone, Vice President-Personnel, and G. A. Peck, General Manager-Electronic Equipment Division.

Baker and Saxe will represent their clubs in the annual St. Louis Area Toastmasters contest in March.

MAC Singers

The MAC Singers, McDonnell's popular choral group, recently entertained residents of the Alverne, a senior citizens' home in downtown St. Louis. The chorus will appear March 18 at Veterans Hospital on Grand Avenue.



1963 UNITED FUND AWARD TO McDonnell employees is examined by, from left, Norman Utlaut, all around machinist, Lathes Department, S. A. McCarthy, Senior Production Design Engineer, Productibility, and R. C. Krone, Vice President-Personnel. Utlaut and McCarthy are employee-elected members of the Personnel Charity Plan board. It was the ninth consecutive UF award for McDonnell people whose 1963 contribution through the Personnel Charity Plan was \$445,000. These awards are on display in the lobby of Building 1 and the Employment Office.

World's Fair

(Continued from Page 1)

that will actually occur during future Gemini flights.

Continuous portrayal of Gemini flight sequences will flash across the blue-black, star-flecked back wall of the shell, compressing into seventy seconds of viewing and taped description the story of Gemini's important rendezvous mission. Suitable musical background will accompany the sequence.

Midnight to Sunrise

Visitors will peer into the cabin of the craft at the second astronaut mannequin. Beyond the spacecraft and on the back of the shell, the wall's midnight blue will be interrupted by a brilliant and dramatic sunrise as it actually appears to an astronaut 100 miles above the Earth.

Emerging from the exhibit, visitors will see a large transparent model of the complete Gemini Spacecraft with its equipment and retro-grade sections. Through the transparent hull can be seen the organized maze of systems and equipment that are fitted into the craft.

George Peck Honored

George A. Peck, General Manager of the Electronic Equipment Division, was one of five alumni of Clarkson College of Technology, Potsdam, N. Y., recently honored by the school's alumni association. He and the others were awarded the Golden Knight trophy—highest honor of the association—for achievements that have brought distinction "to themselves, to their college, and to their professions." The awards were made during the association's mid-winter meeting at Binghamton.



COL. MICHAEL R. YUNK of the U.S. Marines flashes winning smile during lighter moment of his talk before the MAC Management Club Feb. 3. Col. Yunk, Cunningham Trophy Winner as Marine Aviator of 1963 for special achievements, including work with the McDonnell F-4B, at El Toro, Calif., spoke on the Phantom in Marine aviation. The meeting, held at the new Bel Air East Motel, attracted more than 400, the largest MMC gathering in several years. The dinner featured Polynesian food from Trader Vic's.

ASSET

(Continued from Page 1)

proximately 3700 miles an hour from then Cape Canaveral in 1959.

The delta-winged, flat-bottomed ASSET is the first complex aerospace vehicle constructed almost entirely of refractory materials and super alloys.

Successful Test Drop

On Feb. 6, modified flotation equipment proved successful when a simulated ASSET vehicle was recovered after being dropped from an aircraft from 40,000 feet altitude off shore from Cape Kennedy.

The vehicle's new 12-foot-by-two-foot flotation bag, constructed of neophrene rubber fabric, is divided into two equal compartments of 20 cubic feet. If one compartment is damaged, the other enables the vehicle to remain afloat.

Other recovery aids used on the test drop included an automatic crystal controlled auxiliary radio beacon and new dye marker. The beacon and antenna are both enclosed in a 16-inch diameter balloon which inflates upon contact with the water and protects them from immersion.

The new flotation bag is inflated by a nitrogen bleed system that uses nitrogen gas from the pressurized reaction control system of the ASSET vehicle.

MCDONNELL AIRCRAFT

A REPORT ON 24 YEARS AND SIX MONTHS OF SERVICE TO THE
COMMUNITY AND THE NATION
6 July 1939—31 December 1963

1. Sales	\$4,247,588,533
2. Payroll	\$1,613,577,285
3. Ratio of "Payroll" to "Sales"	37.99%
4. Payroll of ten highest paid executives (average per man per year \$32,302)	\$7,085,129
5. Ratio of "Payroll of ten highest paid executives" to "Sales"	17/100ths of 1%
6. On 31 December 1963: The compensation after income taxes of Chief Executive Officer of M.A.C. is equal to the wages (for 48 hours per week) after income taxes of	10 floor sweepers
7. Personnel welfare including retirement income plan, group insurance, social security taxes, workmen's compensation insurance, employee activities and lay off benefits; and including \$106,201,448 vacation, sick leave and holiday pay which are also included in Item 2	\$216,160,736
8. Ratio of "Personnel welfare" to "Sales"	5.09%
9. All taxes paid by M.A.C. (excluding \$41,945,136 social security taxes which are part of Item 7)	\$150,980,627
10. Ratio of "All taxes paid by M.A.C." to "Sales"	3.53%
11. Estimated additional taxes paid by personnel out of their pay	\$362,491,740
12. Estimated taxes paid by M.A.C. and personnel	\$555,417,503
13. Ratio of "Taxes paid by M.A.C. and personnel" to "Sales" ..	13.08%
14. Materials, parts and supplies	\$2,011,400,022
15. Rent, heat, light, maintenance, depreciation, plant insurance ..	\$138,335,611
16. All other operating expenses	\$96,834,817
17. Dividends	\$23,692,186
18. Ratio of "Dividends" to "Sales"	56/100ths of 1%
19. Earnings retained for growth (including \$19,552,357 transferred to capital)	\$102,808,697
20. Ratio of "Earnings retained for growth" to "Earnings after taxes"	81.3%
21. Earnings after taxes	\$126,500,883
22. Ratio of "Earnings after taxes" to "Sales"	

MCDONNELL Airscoop

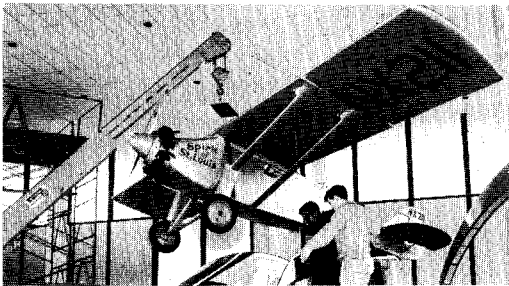
VOLUME XXIII—NO. 2 MCDONNELL AIRCRAFT CORPORATION, LAMBERT FIELD, ST. LOUIS, MISSOURI March, 1964

ASSET No. 2 Being Readied For Launch

McDonnell to Have Exhibit at N. Y. Fair
Display Will
Be in Missouri's
Modern Pavilion

Visitors to the New York World's Fair, which opens April 14, can become much more knowledgeable about America's space efforts by visiting the McDonnell Aircraft exhibit at the Missouri Pavilion.

The McDonnell exhibit will be one of the main attractions in the Missouri Pavilion, which with 80-foot



Vehicle Will
Conduct More
Experiments

The second ASSET boost-glide vehicle, designed, developed and built by McDonnell Aircraft, is scheduled to be launched by the Air Force within the next several weeks at Cape Kennedy.

The ASSET will be boosted by a two-stage Thor/Delta rocket for a flight of 2000 miles at speeds in excess of 12,000 miles an hour. This compares with an 1100-mile flight at a speed of over 10,000 miles an hour on the first launch on September 18, 1963, when a single stage