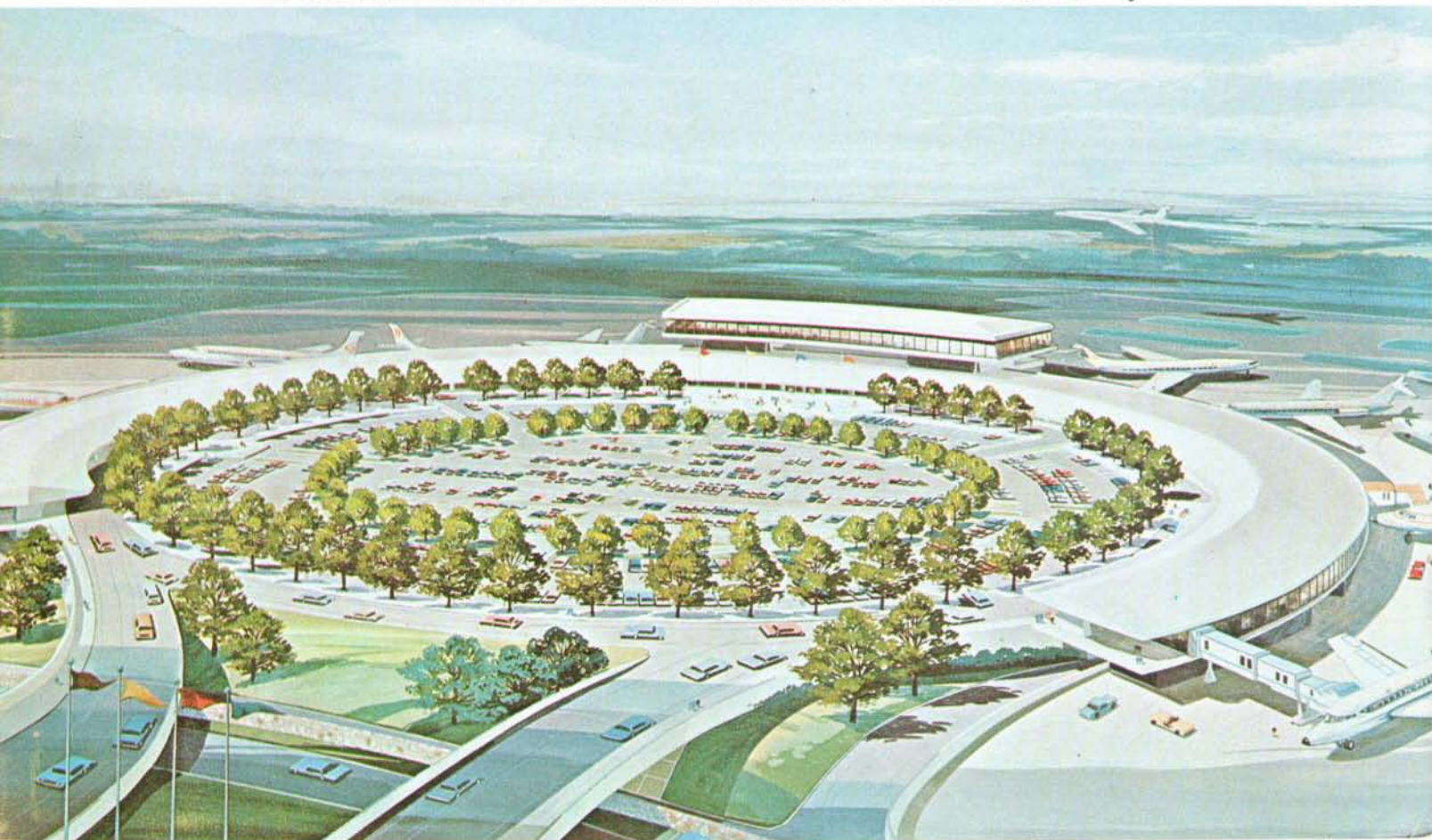


Harley



AVIATION / K.C.

*A Supplement to the November, 1966 Kansas Citian
Official Publication of the Chamber of Commerce of Greater Kansas City*



Sequal

put an end to a
PLANE "PAIN"

**Let Sequal Put An End To
Your Fabrication "Pains," Too**

On most any airline, in any part of the world, when you see an aisle serving cart odds are it's a Sequal. Tidy up in a Convair 880 and chances are the wash basin is a Sequal assembly, too.

We delight in easing any manufacturing "pain".
A phone call or letter could be a happy "Sequal" to your manufacturing needs.
These fine people have found it so. . . .

AIR LIFT INTERNATIONAL AIRLINES
ALLEGHENY AIRLINES
ALLIS-CHALMERS
BELSAW MACHINERY COMPANY
BONANZA AIRLINES
DELTA AIR LINES, INC.
DEUTSCHE LUFTHANSA
ETHIOPIAN AIRLINES
FAIRBANKS-MORSE, INC.
FLYING TIGER AIRLINES
GENERAL ELECTRIC COMPANY
HERCULES POWDER COMPANY
LAZY BOY LAWN MOWER CO.
MOHAWK AIRLINES, INC.
NORTHEAST AIRLINES, INC.
NORTHWEST ORIENT AIRLINES
OVERSEAS NATIONAL AIRLINES
PACIFIC CAR & FOUNDRY,
K-W DART

PACIFIC NORTHERN AIRLINES, INC.
PAPER INDUSTRIES, INC.
PHILLIPS PETROLEUM COMPANY
H. K. PORTER COMPANY, INC.
PURITAN EQUIPMENT, INC.
SAUDI ARABIAN AIRLINES
SEABOARD WESTERN AIRLINES
SMITH AND LOVELESS
TRANS CARIBBEAN AIRWAYS
TRANS INTERNATIONAL AIRLINES
TRANS WORLD AIRLINES, INC.
UNITED AIR LINES
UNITED STATES AIR FORCE
UNITED STATES ARMY
VENDO COMPANY
WEBER AIRCRAFT CORPORATION
WESTERN AIRLINES, INC.
WESTERN ELECTRIC COMPANY
WORLD AIRWAYS
XEBEC CORPORATION

FABRICATION AND ASSEMBLY

All types of metals including aluminum and stainless steel . . . plastics, wood (you name it).
Machining, forming, stamping, multiple punching, heliarc and spot welding.

Sequal, Inc.

Service And Quality Are Our Sales Force
1308 W. 9th Street, Kansas City, Missouri 64101 Phone AC 816, GRand 1-0655
Locally Owned And Operated

*Modeled by National School
of Aeronautics, Kansas City, Mo.*



Lou E. Holland (left), Kansas City's "Father of Aviation," along with Col. Charles A. Lindbergh (center) and flyer Art Goebel at the dedication of the Municipal Air Terminal in 1927.

Kansas City

AIR - MINDED

FROM THE START

By JOE ROBERTS
The Kansas City Star

AN INHERENT determination to make Kansas City the aviation hub of the nation has come alive again in the move to expand Mid-Continent International airport.

Four decades ago, behind Chamber of Commerce leadership, the rallying point was the construction of Municipal Air terminal. Current objective: The realization of a full-dimensioned jet-age airport. And again the business leadership is moving to get the job done.

Holland Was Driving Force

Then it took a Lou E. Holland playing three roles, business man, chamber president, and later organization executive director, to spark the significance of the coming air age for his community.

First achievement was a ribbon-cutting May 12, 1926 at Richards field, Gregory boulevard and U. S. 50, with Holland officiating. He watched the first airmail leave Kansas City on a National Air Transport plane.

Later that year the federal government stopped planes from using the rough field. Then Holland as president of the Chamber of Commerce became the lone voice urging the city to plan extensively for the air age ahead.

At a dinner for Bernt Balchen and Floyd Bennet (reknown flyers with Richard E. Byrd) the Air Corps Reserve Officer association offered to survey likely locations for a new airport. Holland was there, accepted the offer, and with the completed survey, started to work relentlessly on the city manager to build at the present site.

Result: The dedication May 17, 1927, of the Municipal Air terminal with Col. Charles A. Lindbergh, still fresh from his Atlantic conquest that year, to make the main address.

As executive director of the chamber he led the successful campaign to establish headquarters here for Transcontinental & Western Air — the present Trans World Airlines. And thus he earned the unofficial title of "father of aviation" in Kansas City.

Now the obvious importance of the city's rapidly growing air passenger and freight volume, larger

(Continued on page 40)

Air Gateway to the world

TAX FREE



Vote Yes Airport Bonds Dec. 13

AIRPORT BOND COMMITTEE—GEORGE E. POWELL, SR., CHAIRMAN

By **MAYOR ILUS W. DAVIS**
Mayor of Kansas City, Missouri

Kansas City has within its reach, one of the first supersonic airports in the world, an airport that will insure its place in the future air age of this country. The economic impact of this huge expansion of facilities at the Mid-Continent Airport is far reaching . . . increasing the payroll in the area, increased employment, new opportunities to retain in our community talent and brain power, broadening the tax base. . . . This opportunity can become a reality with the successful passage of the Aviation Revenue Bonds on December 13, 1966.

This chance which presents itself to the

voters of Kansas City is a tribute to the imagination and foresight of the aviation leaders of this country. Certainly, it is the greatest vote of confidence any industry or business has placed in this City in the history of its existence.

On behalf of the City Council and the City Administration, we salute the Kansas City Chamber of Commerce for this special Aviation Section of the "Kansas Citian" and for their untiring efforts and dedication in not only supporting this important bond issue, but the entire Aviation Industry in the Heart of America.

By **GEORGE E. POWELL, SR.**
Airport Bond Committee Chairman

The Airport Bond Issue is more than just another bond election. It is one of the greatest economic opportunities Kansas City has ever had.

It will make the future of Kansas City a very different thing from what it would be **without** this air complex. This is the skyway of the future for our youth.

Our air gateway to the world.

Some of the things we know will happen with the development of this airport are these:

- Thousands of highly skilled, well-paid jobs in air related industry will become available.
- Hundreds of millions of dollars of new construction on and around MCI will provide construction work for additional thousands of our citizens.

- Flights into and out of Kansas City will multiply.
- Cargo distribution will expand tremendously.
- New industry will find Kansas City the most accessible and centrally located headquarters city in the nation.
- Kansas City will become crossroads for international air traffic.

We cannot let this opportunity slip through our fingers. No one was ever offered such an opportunity — tax free. It is important that every member of the business community use his influence to see that his fellow citizens know the facts and above all vote on December 13.

The Airlines

PREFER

Kansas City

*By HARDING L. LAWRENCE
President, Braniff International*

I HAVE been asked by the airlines serving Kansas City to respond to the request of Mayor Davis for information about the airlines' plans for expansion in Kansas City in the next ten years.

To put these plans into perspective, perhaps it would be helpful for me to discuss what has happened to the airline industry in the past ten years. Airline growth and contribution to the economy, has been almost unbelievable, even to those of us who have been in the middle of it. It's hard to realize that, ten years ago, there were no commercial jets. Today, well over half of the airplanes in use are jets or turbo-props, at a cost to the airline industry of almost 6-billion dollars. In those ten years, revenue passenger miles have doubled; freight ton miles have almost quadrupled; investment has skyrocketed at a rate far beyond that of any other industry in the country. And yet, in an era when the cost of living, the cost of doing business and the cost of everything else has gone up, the airline industry has steadily cut its average fare per passenger

mile—down 16 per cent in the last five years—to the point where air travel is one of today's very best values. We in the airline industry are, I think, justly proud of this record. The kind of thing that startles us occasionally is the fact that today a single jet engine for a modern airliner costs more than the entire airplane did when we were using DC-3's.

In a very very short time, we have had to learn to think very, very big.

K. C. in the Middle of Things

And where has Kansas City stood in this? You have stood shoulder to shoulder with the biggest thinkers in this industry. Kansas City has shown a foresight and a faith in the airline industry that has sometimes been hard to live up to. At a time when Kansas City was far down the list of the hub cities on the airlines routes, your planners and leaders had the vision to buy an airport site — Mid-Continent International—which is, today, one of the largest airport areas in the United States. It is that kind of Kansas City foresight which

now makes it possible for your city to have one of the first, from-the-ground-up, supersonic inter-continental airports in the world.

And where do we go from here? Well, for the airline industry, the plans for the next ten years sound like Buck Rogers:

Double the passenger miles again. Quadruple the cargo again. Fly 2,000 miles per hour—4 hours 45 minutes from Kansas City to London, including a 45-minute stop in New York.

It does sound like Buck Rogers, except for this fact: our plans are not "blue sky." They are not idealistic. If the past is any criteria, we may be **under-estimating** the reality of ten years from today. That future is real enough that the airline industry is already placing orders and making down-payments on the next generation of giant and supersonic airplanes. During the next ten years, it is estimated U. S. airlines will invest \$14 billion in operating property

(Continued on next page)

“The airlines must have these facilities.

We want them in Kansas City!”

(Continued from preceding page)

and equipment or more than twice as much as the total expenditures of the last ten years.

New Facilities Required

But a new generation of airplanes requires other things that we have only recently begun to plan for. Giant jets and supersonic transports require giant facilities and supersonic airports. We are already feeling the need for hangars as big as a football field; for maintenance facilities for engines not yet built, for training buildings, for terminals to handle the passengers of a supersonic air age. We are pressed for space to handle cargo which will cover us up if we don't have facilities to handle it.

Be assured, gentlemen, passenger miles will double again. Many of the great airports in the United States today have expanded almost as far as they can go. With Mid-Continent International, Kansas City is one of a handful in the world which can expand big enough and fast enough to accommodate the mushrooming needs of air travel and keep even with the future. And that is what we are here today to ask you to do.

As you know, for the past many months, we have been going over our Kansas City needs and requirements. The airlines have discussed it among themselves; we have discussed the problems with Mr. Pittinger, and Mr. Hillelson, and the Aviation Committee, and we have tried to come up with realistic projections of our needs at Mid-Continent International for the next ten years. Specifically, Mr. Mayor, these are the things we know today:

MCI Plans Lauded

The planning concept for your new terminal at Mid-Continent International is great. In the opinion of the airlines, it is by far the most advanced concept of terminal operation in the country today. It will undoubtedly be a turning point in airport design from here into the future. However, in considering the facts of the future, all of the airlines serving Kansas City are agreed that your

initial plan must include 45 gates if it is to be adequate by the time it's opened. It is estimated that the third unit of the terminal which will give you 45 gates with the additional grading, aprons and taxiways and other facilities will cost 24 million dollars.

As for the foreseeable needs of the airlines themselves, I will start with my own. We know that Braniff will want hangar facilities that will cost about \$3.5 million. We will also need a cargo building so we will need a total of 4 million dollars worth of buildings.

Then we turn to TWA which is based here in Kansas City. They tell us that to house and service the Boeing 747 jets, two of which arrive in 38 months, they need two giant hangars and an expansion of their mechanical facilities which will cost \$39,700,000 and which must be started immediately to be ready for the new planes. TWA says their cargo building will cost another \$2.5 million. They say, too, that since this is their center for administrative and training activities that to house them properly can cost \$20,500,000. To complete their overhaul base expansion will require \$6,500,000 and a kitchen for flight food can cost about \$600,000. TWA needs at total of \$69,800,000.

Continental has need for a hangar which will cost about \$2,500,000.

Frontier too will need a hangar to cost about \$1,000,000.

Central, Delta, United, Frontier and Ozark will share a joint cargo facility to cost \$1,000,000.

All airlines are agreed on the desirability of underground fueling which will cost an additional \$2,800,000.

It is apparent to us that Kansas City should be prepared to build the 4th unit of the terminal which would give you 60 gates when the need arises. This along with another north-south runway would give great flexibility to Mid-Continent International as aviation traffic increases. These improvements could run an additional \$20,000,000.

These items total over \$128,000,000.

Future Unforeseeable

Obviously, as rapidly as the airline industry is moving, there are a great many things that we cannot foresee. Next month, TWA is initiating their first scheduled flight to Hong Kong from Kansas City. Who can say what the next five years will bring to Kansas City because of the changes in international air routes? There are route cases being heard now, which may well result in new airlines operating into and out of Kansas City. We have no way of knowing at this point what their needs will be.

Braniff, for example, has plans which, if approved, could materially increase our need for facilities in Kansas City. This kind of thing could well make even 45 gates look short-sighted a few years from now.

In view of these unknown but very real factors, it is the recommendation of the airlines that consideration be given to including in any bond issue some 10% to 20% additional in authorization to meet the demands that cannot be foreseen at this time. Now, what are we asking? You, the leaders of Kansas City, have expressed your enthusiasm for doing what is necessary to help the airlines make Kansas City a great air center.

All of the facilities that we have discussed are facilities for which the ultimate bill will be paid by the airlines, through rental fees and landing fees. What we are asking you, gentlemen, is to provide the initial financing in the way of revenue bonds to get these facilities constructed and ready for our use at the earliest possible date. The airlines **must** have these facilities. We want to have them in Kansas City. We are willing to pay for them over the lifetime of the bonds. What we are asking is that you, the leaders of Kansas City, provide the brick and mortar, the space and the facilities, so that we, the airlines, may get on with the job of helping to make Kansas City one of a very select group of the international airports of the world.



**Congratulations, Kansas City,
for having the vision to see a
supersonic airport grow
out of a Missouri cornfield.**



Trans World Airlines

A Time for Action

By STUART G. TIPTON

President, Air Transport
Association of America

KANSAS CITY is one of the few major cities in the country aware of the powerful forces propelling growth of the air transport industry, and with its proposed \$150-million bond issue prepared to provide the facilities demanded by this growth.

In 1966, despite the strike, the airlines will carry about 112 million people, almost double the number they carried in 1961, only five years ago. At the beginning of 1966, the airlines had a gross investment of \$5.6 billion in property and equipment. Firm orders have been placed for an additional \$5.3 billion in flight equipment to be delivered during the 1966-1970 period. The industry is now gearing up to double, and perhaps more than double, with the next five years. Billions have already been committed in the expectation that the airlines will carry nearly 200 million passengers in 1970.

The growth rate of the airlines far outpaces every other major segment of the economy. The electric utilities, bellwether of rapid growth throughout the world, are expanding at about 8 per cent a year, doubling every 10 years. Average growth rate of the airlines over the last 15 years has been 14 per cent. In the past three, the growth rate has accelerated rapidly. This year the industry will achieve an expansion of over 20 per cent.

There can be no business as usual with this kind of growth. A brand-new situation is developing calling for drastic measures. The sooner we recognize the scope and seriousness of the problem, the sooner an adequate program can be developed to deal with it.

Powerful Forces Propel Growth

We have underestimated the powerful forces at work propelling air transport growth. We must not do so in the future. The fact is that the jet airplane—a few hours to anywhere—has liberated the doers of our society from the inadequacies of communication by letter, memo-

randum and phone. Today, in every walk of life, at the price of a very short time out of the office, the airplane has made routine that most efficient of all information exchanges, the face to face confrontation. Those who do the work of the nation, whether they are in business, government, the sciences, art, religion, education or the professions, are making more and more effective use of the airplane as a means of communication. The buyers and the sellers, the planners, the instructors, the problem solvers, the creative talent, the investigators, the reporters, the managers on every level, travel to see for themselves—to participate in what has become the most productive cross-fertilization of ideas and information in history. The recent strike, which closed down 60 per cent of the air transport system, gave us a new perspective on how important this process has become and how much we now take it for granted. A typical reaction during the strike came from one business executive: "We feel as if we're back 20 years."

Pleasure and personal travel by air are rapidly expanding. Fares and rates are trending down, personal incomes are rising fast, leisure, education and appreciation of travel are increasing. Air freight service is beginning to make possible, for more and more industries, advances in efficiencies in production, distribution and the re-order cycle without precedent since fast truck service developed as an improvement over rail service in the 1920's.

Explosion of Public Demand

The result is an explosion of public demand.

Minor miracles have been achieved by the airlines in doubling their service in the last five years. Airlines, of course, are not the only miracle workers. The air transport network is composed of airlines, airports, and a Federal airways system. Hundreds of millions of dollars a year have been poured into airport

expansion throughout the country in a major effort to keep up with public demand. Not least among the miracle workers have been the air traffic controllers of the Federal Aviation Agency. Growth has been achieved with increasing levels of safety.

We are now, I think, at a crossroads. The travel and air cargo explosions are producing serious strains and inefficiencies in the system, particularly at the largest airport complexes where the traffic concentrates. The contrast is becoming daily more marked between the ability of jet technology to deliver a passenger at 600 miles an hour across the world and the management of the system to get him down on the ground, through a terminal and to his final destination. The system is least effective when it is most needed, at rush hours.

The challenge, therefore, is to make the support system more effective. We face a choice. Will the customer increasingly have to fit himself to the convenience of the airlines, the airports and the airways system or will air transport fit itself to the needs of the traveler and the shipper? Answering this question in favor of the customer creates a crisis of imagination for all segments of the system.

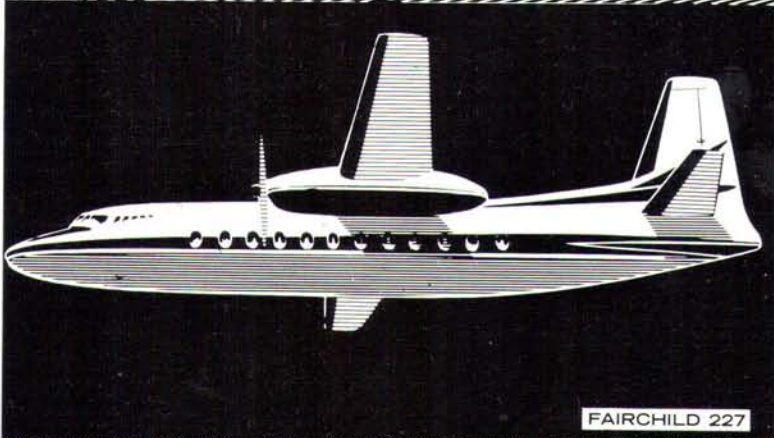
Doubling the system in five years or less requires the outlay of between five and six billions for airplanes. This money is now nearly all committed by the airlines. Large expansion programs are being developed by airports all over the country. I have seen one estimate that two billions are now committed for airport expansion. The FAA has a program for expansion of the airways system involving the expenditure of many millions.

In the final analysis, airlines, both directly and indirectly, will carry by far the greater part of the burden of providing all these billions. Undoubtedly, this is the heaviest burden in relation to size ever to be undertaken, or even expected, of private companies.

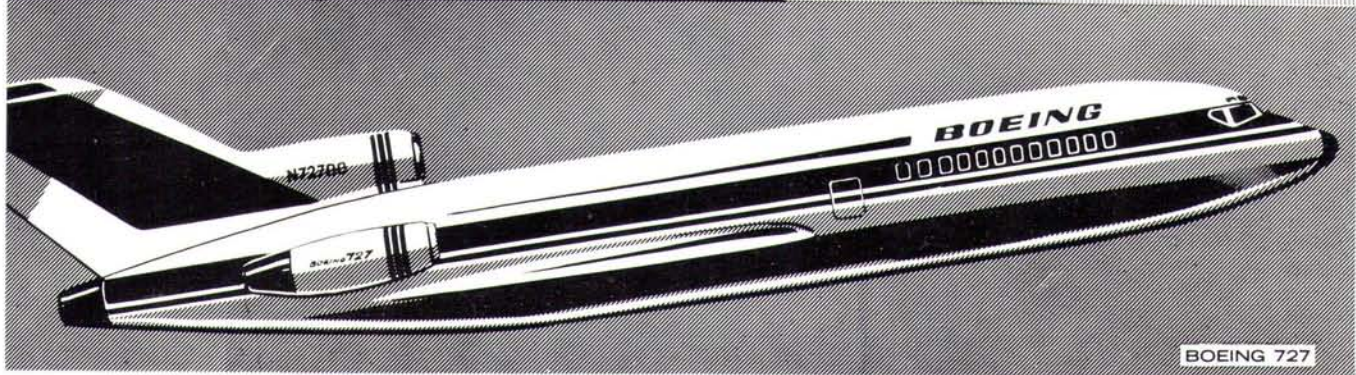


BOEING 737

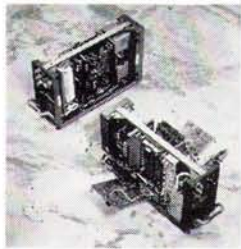
DOUGLAS DC-9



FAIRCHILD 227



BOEING 727



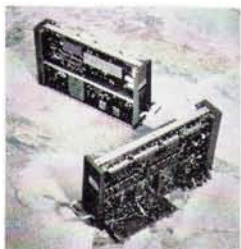
Wilcox 814
Transponder



Wilcox 914
Transponder



Wilcox 800
Glideslope



Wilcox 805
Navigation Receiver



Wilcox 806
Navigation Receiver



Wilcox 807
VHF Receiver

Experience

Big reason why Wilcox Airborne
Units are on these aircraft!

A solid record of experience—in designing and engineering the lightest, lowest-power-consuming, and highest quality airborne equipment in the avionics industry. Plus—a comprehensive program of sales and service support.

Write or phone for information on Wilcox airborne equipment.

WABCO
WILCOX ELECTRIC COMPANY, INC.

A SUBSIDIARY OF WESTINGHOUSE AIR BRAKE COMPANY
14TH AND CHESTNUT ST., KANSAS CITY, MISSOURI 64127 U.S.A. • 816-231-0700

Air-Minded—

(Continued from page 33)

and faster planes, and the need for increased safety margin in big jet travel sparks the new drive — and eloquently. But the chamber's big shoulder is in there again pushing.

And once again present — the determination to have the best in air transportation to serve a vibrant, growing metropolitan area and its trade territory — and efficiently.

Look back to that day in 1927 and the vision of Lindbergh also shared by Holland, and compare.

"Transcontinental air lines between New York and Los Angeles carrying mail, express and passengers would naturally pass through Kansas City and St. Louis," he said. "No other city to the north or south of this line has the physical advantages to become an air center as Kansas City and St. Louis have."

"It is, however, entirely possible that a city 100 to 200 miles off the closest route might by the expenditure of a few hundred thousand dollars on air fields cause the air routes to be diverted through these cities. You businessmen can bring commercial aviation to your city by improving your splendidly located airport and by patronizing airmail now, and express and passenger service when it is established, as is contemplated in the very near future."

Lest the tremendous advantage to the city of the present Municipal Air terminal be underrated, attention is called to other words of Lindbergh that night at the chamber dinner at the Hotel President.

Lindbergh Praises K. C.

"In no other city which I have visited has there been an airport located so accessibly (5 minutes travel time) to the business district. With physical improvements which, no doubt, will be made, the field will go a long way toward making Kansas City one of the great air centers of the country."

"Other cities also are spending a great deal of money on air fields, and the city that makes conditions the best will, other things being equal, go forward the most rapidly in the field of transportation."

Look at the dream come to reality!

More than 2,575,910 air passengers in and out last year. Eight million pounds of air express cargo, 10 million pounds of airmail and 30 million of air freight passing through the Kansas City gateway.

One National Transport plane with airmail in 1926 and there was a

ribbon-cutting! An international hero arrived here (Lindbergh) in 1927 in the tiny Spirit of St. Louis using a periscope for navigation, urging that the airport be kept clear of on-lookers to avoid possible mishaps!

More than 10,000 person lined the streets to see him ride to old Muehlebach field. That many air passengers pass overhead today regularly and hardly an eye turns to contemplate.

More than 224 flights daily leaving for the major cities of the world. And eight commercial airlines are doing the carrying. Five are trunk lines, Braniff, Continental, Delta, T. W. A. and United; three are feeders, Central, Frontier and Ozark.

Millions have been spent on terminal improvements and other modernization at Municipal since that earlier time. And Mid-Continent runways are down, a multi-million dollar T. W. A. overhaul base has been established there. An eight million-dollar addition has been announced. And already the voters have authorized more than 13 million dollars for terminal buildings and ramps.

Now proposed for the voters (December 13) is a 150-million dollar jet-age airport, third largest in the United States, on 5,000 acres in Platte County on a field already in use by the big jets. One of the fifteen major facilities in the U. S. capable of handling the new Supersonic Transports now in design stage, says the Federal Aviation agency.

1969 Move Planned

Plans call for a move from Municipal to the new facilities in 1969.

Then there will be 12,200 runway space with a place for parallel runways of 10,900 and 11,600 feet each. Gates in the first plans will accommodate 45 planes loading and there are 15 more gates in the total projection. An additional 22 million dollars in the bond total will be in the locker for improvements.

Compare the passenger in-and-out of 1,130,000 of ten years ago with last year's 2,575,910. Observe the aviation industry payroll exceeding 122 million dollars with more than 22,000 employees. Note that during the last fiscal (1965-66) year the city reported a 15.3 per cent increase in enplaned and deplaned passengers at Municipal, a 58.6 increase in airmail, a 25.2 per cent increase in air express, and a 12.5 increase in freight-cargo. And growth is obvious.

Municipal and MCI together last year produced a 14 per cent increase in operating income, 8.7 per cent increase in operating expense, and a 5.3 per cent increase in operating

income over expense.

At the present time a Master Air Service Study of the Kansas City area is under way by a group of consultants. Purpose: to forecast needs to come so that these can be met as they develop. Shades of Lou Holland and Colonel Lindbergh!

And so we're at it again.

An estimated 1,600,000 commercial passengers are expected to be flying out of Kansas City annually in 1975 compared with 900,000 a year ago, say the experts. Passenger planes originating flights here are predicated to jump from 28,000 a year to 48,800 in 1975.

Now comes another prediction of 8 million in and out passengers in 1976 for Kansas City. This one comes on the wings of the development of the 300-500 passenger jets. Airlines serving the city are beefing up equipment to meet the demand for both freight and passenger service here. Giant Boeing 707Cs and 747's are being added to T. W. A. to increase cargo capacity, Continental has huge Boeing 747 superjets on order with a 200,000 freight capacity, United, Delta and Braniff have multi-million dollar equipment programs under way, and the feeder lines likewise.

PIP Easily Accessible

Platte Industrial Park just south of MCI, a chamber-sponsored project, is beckoning to electronics firms among others, which are aviation oriented to establish in the planned area already prepared with roads and utilities.

Kansas City industry has demonstrated its proficiency in the manufacture of aircraft in both World War II and the Korean fighting. Area firms are making air related products, and aerospace items. Among them are Benson Manufacturing company, Wilcox Electric Co., Puritan Equipment, Inc., Butler Manufacturing Co., DIT-MCO International, Bendix Corp., Kansas City division and King Radio Corp. And Midwest Research Institute is a leader in aerospace research.

Military aviation with Richards-Gebaur Air Force Base at Grandview, and the Olathe Naval Air station, has created an added air awareness and contributed massively to the city's economy.

And through it all Lou Holland contemplates the entire panorama from his place of honor esconced and unnaturally limited by the frame which holds his likeness on the wall at the Municipal Air terminal. This time December 13 is the rallying point for men of his vision.

growing places with pride



Kansas City and Continental Airlines have a lot in common. Kansas City is planning for a great expansion in air service. Continental Airlines is doing everything possible to provide more of that air service for Kansas City. With the hoped-for granting of new routes, Continental will be able to offer new service to Northwest and Southwest cities and Canada, too. We're proud of our airline and proud to be a part of your growth, Come travel with us and feel the difference pride makes.

CONTINENTAL



The Proud Bird with the Golden Tail

KANSAS CITY'S FUTURE

It Can Be Airborne

By

CLARENCE KIVETT,
Kivett and Myers

R. H. McDONNELL,
Burns and McDonnell

MCI DESIGNERS

THE WELL-KNOWN song says that "everything is up-to-date in Kansas City," and this is especially true about the new proposed Mid-Continent International Airport. Although most of today's terminals, even the newest, cannot readily handle current traffic, Kansas City's planned new terminal will provide a radical new approach, sorely needed, to properly and efficiently serve forecasted doubling of passenger traffic by 1970 and its tripling by 1975. These projections mean about 2¼ million boarding passengers by 1970 with even greater increases in tonnage of cargo to be airborne.

Mr. Harding Lawrence, President of Braniff Airways, recently por-

trayed the proposed Mid-Continent International Airport as one of but a few in the world scheduled to be ready to take advantage of the tremendously accelerated growth of the air industry. He said that Kansas City's MCI is one that can and should be built big enough and expand fast enough to accommodate the mushrooming needs of the airlines and thus keep pace with their future. Mr. Lawrence also stated that the planning concept for our new terminal is splendid, in the opinion of the airlines serving Kansas City, and that it reflects the most advanced approach to terminal design and operation in the country today and could well be a turning point in airport design. These accolades from

such an authoritative source is most gratifying to the planning team in light of their exhaustive search for a concept with maximum efficiency of function, as was the goal.

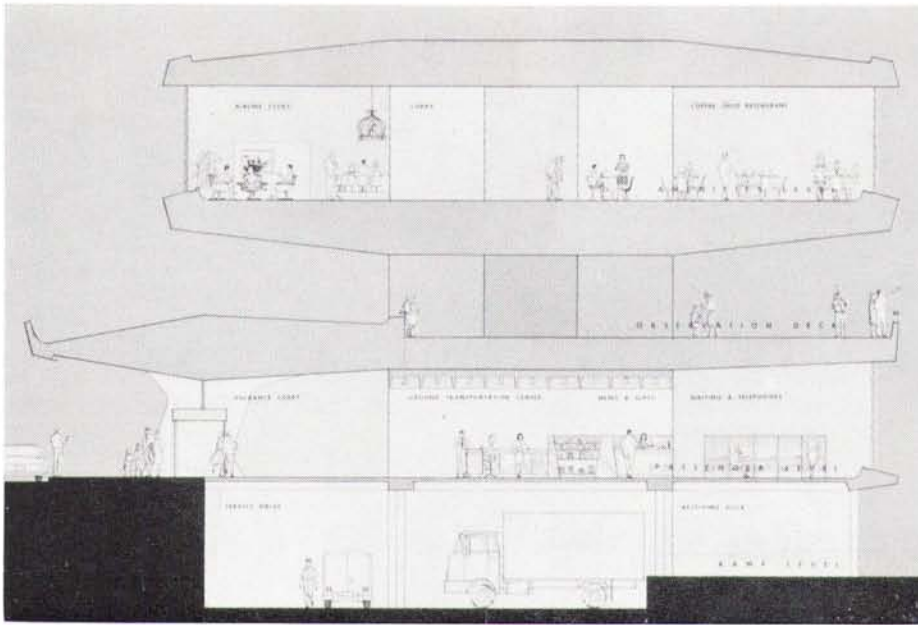
Flexible for the Future

The geometry of the terminal area is both provocative and dynamic. Site development, earth forms, and architecture, together with properly integrated roads, parking, and services, will provide at MCI the facilities for immediate needs as well as future growth. Uppermost in our considerations has been the retention of flexibility, the vital ingredient to permit expansion to serve aircraft which are now only in the conceptual stage.

In the next ten years it is predicted that airplanes will be flying to either coast at 1,800 miles per hour and to London in three to four hours from Kansas City. Such achievements may seem unrealistic but actually, using the past as a criteria, this is probably understating rather than overstating the realities of ten years from today. The airline industry well knows the future is but around the corner and to substantiate this certainty are already making down payments on jumbo sized and supersonic jets and other equipment that will cost over \$14 billion in the next decade.

In past years, those associated with airport planning have realized that the sheer size of aircraft and the ever-increasing utilization of





these vehicles at major airports make it imperative that more imaginative approaches be taken to passenger terminal planning. Terminals have grown ever larger and now exceed the human scale. Planners therefore have searched for and developed many methods for alleviating this excess. None to date has been wholly successful, although great strides have been made.

Even during the relatively short period of study upon MCI, impressive increases in both passenger and air freight traffic have been realized, causing forecasters to still further "raise their sights." Ever larger, heavier and faster aircraft have, during this period, advanced from the study stage to reality in the form of contracts for their development and use. It has been amply demonstrated again, as so often before, that only the most optimistic and forward-looking attitudes on the part of airport planners can develop airport designs which do not become obsolete while still on the drawing boards.

Recognizing the successes as well as the errors of the past, and with the indispensable assistance of all persons and groups involved in these studies, a bold concept of air passenger handling has been created and subsequently accepted by the governing body of Kansas City. This concept, known as the "gate arrival scheme," has been even further extensively studied.

Gateway to the City

The jet terminal today should provide an appropriate gateway to the

City, presenting the most effective and impressive impact to reflect the growth and vitality of the community. The concept envisioned expresses monumentality, not in spaciousness, but rather in convenience to the traveling public, adaptability to the automobile, and at a scale especially fitted to Greater Kansas City and its people.

The passenger terminal concept selected for Kansas City has been developed in far greater detail than in previous studies to achieve the full potential of operational and passenger handling advantages inherent in the scheme. During the last few months we have had the opportunity to refine the design previously submitted. Some areas have been increased to allow for passenger loads anticipated with the introduction of new aircraft. Recognizing the problem of delivery and service vehicles and because of the linear form of the building, it was practical to place a service roadway under the building. This allows vehicular entry and service virtually to the exact destination with no sacrifice in the passenger vehicular access to the building. Ground level automobile parking is only a first-stage development in this vital factor of air terminal design. Structural parking at least doubling capacities is planned for future stages.

Currently, though the accepted concept has been approved by the City and the airlines, further studies are being devoted to making certain that all aspects of the terminal planning are correlated to efficiency of function and to provide

the necessary fluidity for future acceptance of ever larger aircraft.

Since the public presentation of this selected concept for the terminal, the reaction has been most gratifying. MCI, as planned, has had a widespread appeal to the airlines and related aviation oriented industries. Numerous requests have been made for sites and financial assistance for facilities that require such a development at MCI to provide the optimum environment for establishment and growth. These ventures may well represent capital investments of over a hundred million. All will be self-liquidating and vastly rewarding to Kansas City's economy.

SST Debut Possible

A typical example of this opportunity was evidenced recently when Ray Dunn, senior vice President of TWA, characterized the growth of the air industry as phenomenal and cited the fact that in the next 24 months TWA will take delivery here in Kansas City of one new jet airliner every 25 days through this period. Each of these aircraft will cost upwards of \$6 million. Subsequently to be delivered will be twelve of the giant Boeing 747's with a passenger capacity of over 325 people each, costing a quarter of a billion dollars per dozen. TWA will start flying these 747's into MCI in about three years and following their commercial acceptance and utilization will come the supersonic transport. The American version of the SST will be so large that it will stretch from goalpost to goalpost on a regulation football field. Since TWA was the first to place a deposit on the SST, it is likely that MCI and Kansas City will be the stage for the SST's world debut.

A great many, if not all, of these jets will subsequently come home to roost in Kansas City for their care and feeding; i.e., maintenance and servicing. Such maintenance and operation would require a tremendous capital investment and annual payroll that will beneficially affect every citizen of this community. But first must come the program of improvements to be implemented at MCI. These will provide the optimum environment that could lead to at least a quarter of a billion dollars of self liquidating investment at MCI. It would appear that Kansas City's future could well be airborne, as MCI develops to serve the air age.



A wash job for a big jet plane calls for a vast room, barrels of detergent and water by the thousands of gallons. This is standard procedure at TWA's overhaul base.

TWA/K. C.: Looking to the Future Together

By A. E. JORDAN

Vice President-Technical Services
Trans World Airlines, Inc.

IT WOULD be pretty hard to be unaware that Trans World Airlines has a pretty big operation in Kansas City. In fact, there are 8,600 TWAers here.

Occasionally I'm asked, as I have been now by the Kansas Citian, "just what do they all do?" And I answer, with understandable hometown pride, "just about everything."

For really, Kansas City is the heart of TWA's global operations. Wherever a ticket is sold, a report written, a jet airliner repaired, a flight planned, a flight completed, be it in Boston or Bangkok, to one

degree or another, someone in Kansas City will ultimately become involved in that operation. As a teenager might sum it up: "This is where the action is!"

In this article, I'll try to take you on a brief tour of TWA's operations in Kansas City. There are six major activities. Perhaps the easiest way to conduct this tour is to look at each of them:

Technical Services

This is where we keep them flying. Periodically, each of TWA's 145 jetliners must come home to our base at Mid-Continent International Air-

port for a complete take-it-apart-and-put-it-back-together overhaul.

More than 4,600 skilled men and women—a little more than half of TWA's employees in Kansas City—work together here to keep our airplanes flying safely and on time.

The base itself is a 25 million dollar complex sprawling over 110 acres of what was once a cornfield and where one day in the not too distant future 2,000-mph supersonic jets will land and take off to make Kansas City a "next door" neighbor to all the world.

Largest of the structures here is Building One, the airframe overhaul, hangar shops, and administration headquarters for the Technical Services division. Four football games could be played at once inside this building, which could double as a vast sports arena because there are no pillars or posts in the hangar areas. The three-story center section serves as a backbone for the cantilever roof. There's enough concrete in this building to pave a sidewalk from here to Denver. This building houses the hangar facility for work on the basic structure of the airplane, as well as various shops for overhaul, repair or fabricating parts of the airplane and its components.

The first thing that happens to a plane when it arrives at Building One for its checkup is a bath from the tip of its nose to the tip of its tail. Three hundred gallons of various cleaning solvents are used in the process. Incidentally, the waste solvents, oils and grease are disposed of through TWA's own waste treat-

Closed circuit television projects airport scene on a large screen in front of the pilot's cockpit to give greater realism while training at TWA's Jack Frye International Training Center.



ment plant, so as not to pollute the nearby streams and farmland.

Landing gear and many other components of the airplane are removed and sent to the shops for test repair or modification.

Another point of interest you will see in Building One is the heart and nerve center of Field Maintenance, the maintenance coordinating center. Their function is to keep a round-the-clock watch on the performance of every plane on the line and to provide expert service to all stations with the help of specialized engineers.

A history of each plane and its component parts is known and available. In addition, every day at 11 a.m., there is a briefing session on the third floor in which all major stations participate by an open-line telephone hookup with the MCI staff members. This ties our far-flung Technical Services operation into a closely coordinated unit.

Near the maintenance coordinating center are our aeronautical and industrial engineering groups. These engineers not only support the maintenance function, develop the necessary methods and tooling for maintenance and overhaul, but also design modifications to improve the reliability of our aircraft and engines.

Supplies and provisions are of major importance to the support of the TWA fleet. In the lower level of the power plant overhaul building is a central warehouse from which parts are shipped to all points on the system. As part of its stores program, TWA has been a leader in developing packaging techniques and reusable containers.

To insure that the right part is available when and where needed, the purchasing department located in the office portion of Building One makes use of the latest electronic data processing equipment to maintain a current inventory and project future needs. TWA's purchasing department is responsible for the acquisition of all equipment, parts and supplies needed by the corporation throughout the world.

The cabin equipment, such as seats, carpets, galleys, window shades, will be taken out and thoroughly cleaned and inspected. All the upholstery and carpeting is refurbished or replaced in our own shops by master craftsmen. Skilled employees remove other equipment including cockpit instruments, complex electronic gear, hydraulic and other mechanical items, and send them to highly specialized overhaul and test centers where they are restored to a same as

new condition.

The stripped basic airframe is carefully inspected along with the miles and miles of wiring, tubing, and control cables. Primary structure is checked by X-ray, ultra-sonic procedures, and other highly developed techniques as well as by highly trained inspectors.

In short, the entire plane is subjected to a scrutiny that normally takes a week and consumes between 10,000 to 16,000 man-hours and costs as much as \$150,000. When the plane emerges it is as new as the day it left the factory—in fact, newer, because many improvements and numerous modifications will have been made.

After the airplane is completely refitted and all its systems rechecked, the flight test group fly it and carefully audit its performance against our stringent standards before releasing it for service.

Now, let's take a look at what is going on in Building Two, Power Plant Overhaul. Here engines are taken apart and put back together again, piece by piece. Every precision part is cleaned and polished. X-rays, magnifying glasses, dyes, eddy currents and ultra-sonic devices search for hidden flaws that otherwise would be impossible to detect. Many parts are remachined and replaced in our own shops.

The cycle time for complete overhaul—disassembly through test—is about 15-20 days. Average overhaul costs for one of the four engines that power a Boeing 707 run around \$50,000.

Flight Training

TWA's Jack Frye International

Hostess trainees of Trans World Airlines learn in-flight procedures on the ground in the cabin trainer at the airline's Flight Training Center in downtown Kansas City.



Training Center, at 1307 Baltimore, is generally regarded as the most complete facility of its kind in the air transport industry. Amid its multitude of training equipment is a simulated air fleet.

Classrooms and cockpits, hostess grooming and cabin mockups—whatever is needed to develop a top-notch flight crew is contained in the eight-story brick building. More than 6500 TWA flight personnel were trained there last year. All TWA flight personnel go through the center at least once a year.

Outstanding among the center's facilities is a fleet of five jet flight simulators. These highly advanced devices are exact duplicates of the cockpits of TWA's airliners. Two closed circuit television systems present a moving view of what a pilot sees through his windshield. Added realism results from special sound effects, plus the simulator's pivoting about in response to control movements.

Crew training by TWA's flight deck officers keeps the simulators operating day and night throughout the year. A number of other airlines contract with TWA to give specialized training to their flight personnel. And Military Air Transport crews, who fly the Presidential jets, are sent to TWA for proficiency checks on the simulators.

Reason: TWA's ground school training methods are so effective that, for example, 95 per cent of its Douglas DC-9 pilot trainees get grades of 95 per cent or higher.

The classrooms and instruction method features an electronic method, known as classroom responders, which tell whether stu-

(Continued on page 52)

Imagination, Initiative

Pay Off For Wilcox

NOW ONE of the leaders in designing and manufacturing communications and navigation equipment for international and domestic airlines, the military and private aircraft, Wilcox Electric Company had very modest beginnings.

The Company was founded in 1931 by Jay V. Wilcox to develop, produce and market amplifiers and other equipment for the commercial broadcasting industry. In the period immediately following the Company's founding, the airplane became a commercially practical medium of transport and, attendant with the development of aviation, there were many unique communication and navigation problems which were peculiar to aviation alone. In order to solve these problems, Wilcox worked closely with the infant aviation industry in developing equipment of the desired dependability and performance.

With the outbreak of the second world war, Wilcox was a recognized supplier of electronic equipment to the air transport industry. Furthermore, the Air Transport Command looked to Wilcox as a primary source of ground-to-air communication and navigation equipment.

Technological Breakthrough

After the war, Wilcox initiated studies on the use of the modern miniaturized components and advanced circuit design developed for the military, for a complete airborne communications and navigation package. The result of these studies produced a major technological break-

through in the avionics field. In 1956, the Company went into full production manufacturing the first complete communication and navigation radio instrumentation system for aircraft. The new package measured up to the rigid airline specification, and in addition, was small enough and light enough for utilization in general aviation aircraft.

Perhaps the most outstanding example of the Company's imagination and initiative in this area is its radar transponder. This piece of equipment was designed and pioneered by Wilcox and has since developed into a twenty-five million dollar market.

The transponder is a radar identification device for aircraft that allows the air traffic controller at airports to distinguish any one particular aircraft from the dozen or so "blips" that are showing on his radar screen. So successful is the Wilcox transponder that the Boeing Company has chosen it as standard equipment for their 727, 737 and proposed 747 (the jumbo jet carrying 500 passengers) and their supersonic transport. Moreover, six other companies are now producing transponders — following the Wilcox lead. A lead still held, in that Wilcox have now produced the world's smallest and lightest General Aviation Transponder.

In addition to producing the most

J. E. Gardner (center), executive vice president of Wilcox Electric, discusses the latest piece of Wilcox equipment to be ordered for the Anglo/French SST Concorde. With him are R. R. Van Zant (left), vice president of domestic marketing, and P. E. Pottker, director of export marketing.



modern and advanced airborne electronics systems, the Company also produces complete airport ground navigation and communications installations.

The major products of the Company fall into the following categories: radio transmitters and receivers, radar, distance measuring equipment, navigation aids and tape and magnetic drum telephone recorders.

Wilcox, however, is not just limited to these products, but can design and produce most types of electronic equipment, regardless of their degree of complexity. Compactness, extreme lightness, miniaturized circuitry, low cost and reliability are the recognized characteristics of Wilcox products, all of which are a must in aviation today.

Export to 90 Countries

Now one of the nation's largest producers of aviation nav/com equipment, the Company exports to over 90 different countries and in 1966 its total sales will top the sixteen million dollar mark, a 40% increase over 1965. A similar increase is anticipated for 1967.

A significant change and a major step forward for the Company occurred in 1965 when the Company joined forces with Melpar, Inc., a subsidiary of the Westinghouse Air Brake Company (WABCO).

The Key to Acapulco.

Years in the making, Braniff International airline's paper key to Acapulco features some never before revealed facts about the Jet Set resort. It's worth its weight in gold.

Simply connect the number on the map with the number listed below.

For an abbreviated key, read every other odd number.

1. A great place to watch sunsets. (Al pie de la cuesta.)
2. A great place to watch people watching sunsets.
3. An Acapulco sunset.
4. A place where you can rent a hammock for 2 pesos.
5. A fantastic place to hunt jaguars and other beasts.
6. La Quebrada cliffs, where divers dive.
7. Flamingo Avenue.
8. A few flamingos.
9. Bullfight arena.
10. Jai Alai Frontón.
11. Jai Alai player slamming ball against wall.
12. A place where you can rent glass-bottom boats.
13. Morning beach. (Caleta beach.)
14. Afternoon beach. (Hornos beach.)
15. Evening beach. (La Condesa beach.)

16. A beach for people who don't like beaches—Castillo Mountain.
17. Ferry to Pierre Marquez.
18. Road to Pierre Marquez.
19. Famous plush Pierre Marquez Hotel.
20. Roqueta Island.
21. Roqueta Island beach.
22. Best place to catch sailfish.
23. Underwater statue of Virgin of Guadalupe.
24. A passenger looking out of the window of a blue Braniff Jet.
- 25., 26., 27. Scenic drive along coast... connect numbers.
28. Yacht club.
29. 6 yachts in the harbor.
30. Fisherman's docks.
31. Skin-diving equipment rental.
32. Armando's Restaurant.
33. Armando's famous Café Diablo being served to a customer.
34. Post office.
35. Fishing boat rental.
36. Mexican fishing office.
37. Couple being photographed with 136-pound sailfish.
38. Beach boy training school.
39. Main shopping center.
40. San Diego Fortress, built in 1617.

41. A young girl, built in 1946.
42. Direct center of city of Acapulco.
43. José Sanchez's gas station.
44. Hungry Herman's Hamburger and Pizza Restaurant.
45. Monument that was commissioned, but never built, of Hernando Cortez.
46. Hernandez' Rent-a-jeep.
47. Acapulco Bay.
48. Hilton Hotel.
49. Hilton Hotel's private beach.
50. Hilton Hotel's private rock.
51. Pacific Ocean, not to be confused with #47.
52. Tequila Au Go Discotheque.
53. A great place for dining, dancing, and mixing. (Paradise Beach.)
54. This side of paradise.
55. Portofino Restaurant.
56. Where famous Jacaranda Indians perform their flying act.
57. El Presidente Hotel.
58. El Presidente's private beach.
59. Road to Mexico City.
60. Mexico City (off map).
61. Best possible view of the bay.
62. Worst possible view of the bay. (Behind Castillo Mountain.)
63. Juan's Rent-a-jeep.

64. Villa Verra, Jet Set Hotel.
65. Golf course.
66. 469-yard par 4, 16th hole.
67. Moonlight cruise, cruising.
68. Home of Mexican Navy.
69. La Concha's exclusive beach club.
70. World-famous Las Brisas Hotel.
71. A pink jeep taking you up to your room in Las Brisas.
72. Airport, 20 miles from this number.
73. A yellow Braniff Jet about to land at airport, 26 miles from this number.
74. It just landed, 20 miles from this number.
75. Leader of reigning Acapulco Jet Set lives here.
76. Various Jet Set villas.
77. Pierre Marquez Rent-a-horse.
78. A horse.
79. Jungle where you can rent a boat and see strange birds and animals.
80. A strange bird.

For more information, call Braniff International or your Travel Agent.

Braniff International
flies United States Mexico South America



Ozark Has Grown With Kansas City

The youngest local service carrier in the United States, Ozark Air Lines started flights to Kansas City early in its history as one of its first route extensions. After 15 years, the airline now serves the area with eight arrivals and departures daily.

Ozark was formed in 1950. At present this still young airline flies more than an average of 3,700 passengers to and from Kansas City each month. In addition, the number of Kansas City air travelers using Ozark increases monthly, and service has been increased regularly.

Recently Ozark inaugurated jet service to Kansas City, utilizing the new 560 mph., 78-passenger, DC-9 Twin Fanjet. Trips are made daily to Chicago, with stops in Moline and Cedar Rapids, providing connections to cities throughout the world.

At present, Ozark's Kansas City flights serve 16 cities in Missouri and three other neighboring Mid-

America states. Cities include Chicago, Springfield, Mo., St. Louis, Jefferson City, Columbia, Joplin, Springfield, Ill., the Quad Cities, Cedar Rapids, Indianapolis, Fort Leonard Wood, Bloomington, Quincy-Hannibal, Ottumwa, Sterling-Rock Falls, and Champaign-Urbana.

The airline employs 14 people in Kansas City to serve the air traveling public from the Mid-Western area.

Ozark recently announced an agreement to merge with Central Airlines, which also serves Kansas City and 45 other cities in six states. The move is subject to C. A. B. approval.

The merged system would fly almost 10,000 route miles to 99 cities in 15 Mid-America states, with Kansas City as one of the major route hubs.

Southwest Airmotive Finds a Happy Home In Kansas City

When Southwest Airmotive Company, long a leader in service for business aircraft, decided more than a decade ago to open its first out-of-Dallas aviation supply center, months were spent determining a location "most likely to succeed." The careful vote of company officials finally went to Kansas City, Kans., and, in a move they have never regretted, they opened for business at 420 East Donovan Road in March, 1956.

Bringing the products of aviation's best known manufacturers with new convenience to airline and general aviation customers, Southwest Airmotive's Kansas City district outlet prospered from the start. Today, with its staff of young sales specialists familiar on airports throughout the area, it represents more than 60 makers of everything from nuts and bolts to complete engines to the latest electronic gear. Gerald H. Dykstra is

(Continued on page 53)



patterns for progress

For nearly half-a-century Stern Brothers & Company has helped finance the pathways of progress for Kansas City through the underwriting of municipal bonds and corporate securities which have provided major civic improvements . . . airports, bridges, buildings . . . and have brought expanded business and industry to Kansas City and the Midwest area.

Stern Brothers & Co. INVESTMENT BANKERS SINCE 1917

1009-15 Baltimore Ave. • Kansas City, Missouri
DENVER • ALBUQUERQUE • CHICAGO • ST. LOUIS • OMAHA • DALLAS

Frontier Inaugurates 727 Arrow-Jet



On hand for the inaugural regularly scheduled flight of Frontier Airlines' new 727 Arrow-Jet were: (left to right) Herbert C. Schmidt, Frontier regional sales manager; Jack Watkins, Frontier sales representative; W. J. Mitchell, Frontier vice president of sales; Louis P. Abrams, executive vice president of the Chamber of Commerce of Greater Kansas City; Richard E. Fitzgerald, senior vice president of Frontier; L. W. Dymond, chairman of the board and president of Frontier; John Latshaw, immediate past president of the Chamber; Norma Walker, mayor of Aurora, Colorado; D. Peter Newquist, assistant to Kansas City Mayor Ilus W. Davis; Mayor Tom Currihan of Denver; and Frank Pittenger, Kansas City, Mo., aviation director.

BOND VOTE ALL-IMPORTANT

On October 1, 1966, this news made the headlines:
M-CI BOND VOTE DEC. 13

The City Council Passes, Without Opposition, an Ordinance for Election on 150-Million-Dollar Airport Proposal

Revenue Issue Will Be Paid Off by Airlines, Other Users

And the following also bears repeating—the councilman in calling up the ordinance for passage said, "This being uncontroversial, I am pleased to move the advancement of the ordinance. This is the only time in memory that we have talked about bonds that we have heard no opposition. But then it would be hard to find a reason to be against these revenue bonds. The bonds would not cost the taxpayers anything, but would be paid off by the airlines and other users of the airport through rents, fees and other service charges." The mayor then said, "We are all pleased and I know we are all conscious of the tremendous benefits to Kansas City these bonds will create. I hope we can all move forward and build the greatest airport in the world."

There is no question of the enthusiasm of the city officials. It will be a great boon to Kansas City's economy. The airlines have given the green light to proceed

(Continued on page 51)

THE ARROW-JET!

Now Frontier is flying the big new Boeing 727 Arrow-Jet. Join us as we soar through the skies of Frontierland at nearly the speed of sound. We also make flying a bargain. Our Half-Fare-Plan lets anyone fly half-fare. It's the only stand-by plan with a "guaranteed seat." Family Plan saves you up to 75% any day of the week. "21" Fare gives anyone under 21 confirmed reservations at 40% off. Vacationland Fare offers residents from outside Frontierland 30 days of unlimited travel on Frontier for only \$100. So if you want to go places in 11 Mountain and Plains states, you can really go places with Frontier.

FRONTIER AIRLINES

The airline that knows the West. Best.



K. C. Prominent on Delta System

Several factors, including bids for additional routes and expanded jet service, have elevated Kansas City to even greater prominence on Delta Air Lines' system of 60 domestic cities.

Throughout 1966 Delta participated in all hearings and vigorously prosecuted its application in the Pacific Northwest—Southwest Service Case. The airline will be just as aggressive in the recently instituted Gulf States-Midwest Points Service Investigation, which will get underway in 1967.

On the tangible side, at the moment, Delta on October 30 began operating additional DC-9 Fanjet service for Kansas City. The world's first scheduled flight by the DC-9 served Kansas City in November 1965 and Delta began daily service with the Douglas-built twinjet in early December of last year.

V. A. Mensie, district sales manager, said that the newest DC-9 service for Kansas City offers an 8 a.m. departure for Memphis. Mensie said that this schedule is an upgrading of

service that previously was provided by a piston-powered DC-7.

"This flight offers excellent connections in Memphis to Atlanta, Jacksonville, and Miami," Mensie said. "In addition to our new morning departure, we have a new inbound DC-9, which arrives from Atlanta, Birmingham, and Memphis at 8:38 p.m. This, too, is an upgrading of previous piston-powered service."

In the Civil Aeronautics Board route cases, Mensie said that Delta attaches significant importance to Kansas City in the bid for service to Denver and beyond to the Northwest.

"Not only are we anxious to provide new service to the West, but Kansas City would be an ideal Delta gateway through which traffic would flow from the Southeast. Presently the best routing for this traffic from the Southeast to the Northwest is via Los Angeles or San Francisco."

In the Gulf States—Midwest Case, Delta has filed a petition with the Civil Aeronautics Board to eliminate

the airline's present Kansas City restrictions in the case. That restriction enforces a stop at both Springfield and Memphis on any Delta flight from Kansas City to Shreveport, New Orleans, or Houston.

"Removal of the restriction," Mensie said, "would enable Delta to offer Kansas City vastly improved service to those southern and southwestern cities."

When the investigation gets underway, Delta can be expected to make application for authority to operate direct from Kansas City to Dallas, Houston, and San Antonio and from Kansas City to Chicago and Detroit. In addition, Mensie said that Delta expects to ask for new authorities that will make Kansas City a major intermediate point in the various markets which the CAB has listed and also on Delta's existing routes.

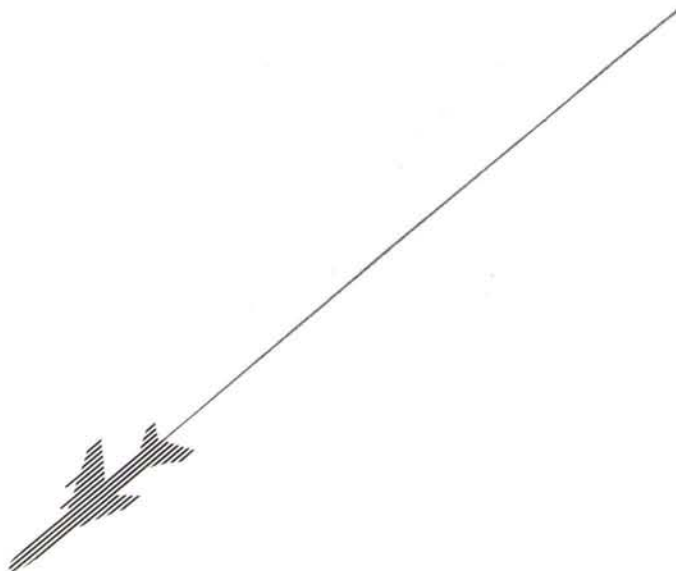
"We are hopeful that these authorities will be granted to Delta," Mensie said, "and thereby enable us to provide more new and improved service for Kansas City."

Emergency oxygen systems from Puritan ride them all

To back up the pressurized cabin environment, every U. S. domestic and international trunkline passenger jet carries an emergency oxygen mask-delivery system made by Puritan.

Puritan's modern, 64,000-square foot plant at Kansas City produces life-support breathing systems . . . smoke and toxic atmosphere protection . . . and oxygen system controls that meet the most exacting specifications of airframe and space vehicle manufacturers.

Puritan experience, knowledge and facilities form one of Kansas City's most highly integrated complexes dedicated to aerospace progress.



Puritan Equipment, Inc.,
a subsidiary of
Puritan Compressed Gas
Corporation
Oak at 13th Street . . .
Kansas City, Missouri

Bond Vote—

(Continued from page 49)

as rapidly as possible. There is a tremendous amount of work to be done in planning, construction and financing. But first the people must authorize the bond issue on December 13.

"The citizens of Kansas City have always been transportation-oriented," said Russell E. Siefert of Stern Brothers. "We have been a railroad and distribution center for years. We have taken advantage of a natural location and it has paid off handsomely. With hard work, vision and perhaps some luck we have made a favorable impression on the airline industry.

"Back in 1954 we pioneered financing a huge overhaul base for TWA. This involved the sale and distribution of Kansas City Airport Revenue Bonds throughout the United States by investment bankers in Kansas City. Several years ago the remaining outstanding bonds were refunded at a lower interest cost. Now these refunded bonds are traded nationally, with Kansas City dealers playing an important part in making a market for them at all times. Just recently the city needed \$1,500,000 for advance planning and other expenses in connection with M-CI. Kansas City investment bankers were called in as financial advisors to the city and when the bonds were advertised for sale, submitted the best bid for the bonds."

Many Kansas Citians today have Kansas City Airport bonds in their portfolios.

This all proves that so many of us in this area have something to do one way or the other with the airline industry. And I am sure that most of us will agree that the future looks bright.

LET'S NOT STOP IN MID-AIR!

LET'S KEEP THE PLANES FLYING TO KANSAS CITY!

VOTE **FOR**
THE BOND ISSUE

HA 1-7670

SIGGINS Company
706 BROADWAY, KANSAS CITY, MO.

AVIATION & INDUSTRIAL SUPPLIES

STEEL SHELVING — PALLET RACKS
STORAGE CABINETS — LOCKERS
SHOP EQUIPMENT

Businessmen

CENTRALIZE YOUR TERRITORY —ENJOY MORE TIME AT HOME.

OR TAKE THE FAMILY
WITH YOU — HALF FARE
SEVEN DAYS A WEEK

CALL YOUR TRAVEL AGENT OR...



CENTRAL AIRLINES

AIRCRAFT FINANCING and INSURANCE

LOW RATES

EXPERIENCED PERSONNEL

OUR 38th YEAR

UNION FINANCE COMPANY

401 TRUMAN RD.

VI 2-6606

KANSAS CITY, MO.



Serving the
AERODYNAMIC KANSAS CITY AREA
with FLYING'S FINEST SUPPLIES!

Distribution Division
SOUTHWEST AIRMOTIVE CO.
Kansas City, Kans.

420 E. Donovan Rd.

Phone MA 1-4595

TWA/K. C.—

(Continued from page 45)

dents are absorbing material being presented.

The responder is located at each trainee's desk. It is a small control panel with three buttons, labeled A, B, and C, for answering multiple choice questions. By pressing one of the buttons in response to a question, the trainee sees a tiny light which tells him if he has answered correctly.

The instructor also knows as quickly as the trainee if the answer is correct, for the information also is fed electronically to the instructor's master console and shows up beside the individual's name.

In this manner, the instructor asks the entire class questions, receiving answers on an individual basis.

If the instructor fails to get a point across, he's the first to know. He doesn't go on with his presentation, but retraces his steps to the point where he inadvertently lost his students, and then explains his point again.

After two weeks' classroom training, the pilot trainees are given 16

hours of realistic flight training in a DC-9 simulator. He also receives a like number of hours as an observer of another trainee in the DC-9 simulator.

Before he is permitted to fly the line as a first officer, the trainee receives 12 hours flight instruction in the Douglas DC-9 aircraft before taking a one-hour, forty-five minute rating flight under supervision of a Federal Aviation Agency check pilot.

Hostess Training

TWA's hostess training school is located in the same building. Housed here are two full-scale mockups of jet cabins in which pursers and hostesses are instructed in the finest techniques of passenger service.

Hostess trainees take a five-week course at the Frye Center and another week's in-flight training.

While in training, they live at the new "hostess Hacienda," a complex of 57 garden apartments located on the Country Club Plaza, facing north on Forty-sixth Street at Jarboe Avenue. The oblong-shaped, block-long apartment complex has an Old World appearance with Spanish stucco walls and sharply angular red tile roofs.

TWA presently employs more than 2500 hostesses, of whom 300 live in Kansas City. Most girls work for the airline about two years before resigning to get married. As a result, the task of hiring and training new hostesses is an unending one, especially in light of new equipment purchases by the airline. This year about 1200 new hostesses will be trained in Kansas City, coming here from 42 of the 50 states and a dozen foreign countries.

Administration and Finance

While the financial heart of TWA's worldwide operations is in New York, the majority of the accounting functions are located in Kansas City.

At 1735 Baltimore, more than 1100 men and women process the mountains of paper it takes to run an airline employing more than 33,000 people and serving 57 cities in 19 countries.

One out of every seven dollars taken in by TWA throughout the world finds its way back to Kansas City.

Another example: last year TWA carried 9,686,000 passengers. That

(Continued on page 54)

Through the years . . .
Machinery & Supplies Co.
and Hyster Equipment
have served the area's
growing aviation industry.

We wholeheartedly
endorse Kansas City's
proposed development of
Midcontinent
International Airport to
encourage an even
greater aviation future.



Machinery & Supplies Company, Inc.

2000 Walnut St.

VI 2-5457

Kansas City, Mo.

Kansas City and Continental Are Old, Old Friends

Kansas City and Continental Airlines go back a long way together—back to 1944.

That was the year the airline started service between Kansas City and Denver, increasing its system miles to a record 2,359.

Today Continental has a 7,000-mile domestic route system but its relationship with Kansas City hasn't changed—the midwestern metropolis is still one of the most important of the 21 cities the carrier serves.

All indications point to an even stronger relationship between Kansas City and Continental in the future. In the important Pacific Northwest-Southwest Case, a Civil Aeronautics Board (CAB) examiner has recommended the airline for routes which would enable it to provide service between Kansas City and Seattle, Portland, Salt Lake City and Boise. Continental has filed a sweeping application for routes in the Trans-Pacific Route Case, now pending before the CAB. If granted these routes, the carrier would provide the first nonstop service between Kansas City and Hawaii and the first one-carrier service to such points in the Pacific as Tokyo, Manila, Bangkok, Tahiti, New Zealand and Australia.

Continental is looking forward to using its Concorde and U. S. Supersonic Transports (it has three of each on order) and its three newly ordered convertible Boeing 747C Superjets both on long haul domestic and Trans-Pacific flights. The plans for the proposed Mid-Continent International Airport clearly show that Kansas City will have more than adequate facilities to handle both the SSTs and the giant transports.

In connection with the new airport, Continental is developing plans for \$3 million in facilities, including a hangar and aircraft maintenance shops.

As Kansas City and Continental have grown over the years, each has benefited from its relationship with the other.

Continental boarded about 50,000 Kansas City passengers in 1955, and in 1965 the total was nearly 150,000. Currently, Kansas City is producing nearly 500 passengers a day for Continental. They ride on 26 different flights in and out of Municipal Airport every day. Continental's Kansas City cargo has increased by more than 300 per cent in the last five years, jumping from 1.2

million pounds in 1960 to nearly 5 million pounds in 1965.

Continental's current capital investment in Kansas City is approximately \$250,000. The company has 150 Kansas City employees with an annual payroll of \$1 million. In 1965, Kansas City merchants did about \$1 million worth of business with Continental, and the airline paid \$55,000 in rent to the city for airport facilities and another \$31,500 in landing fees. Taxes paid to Kansas City by the airline for 1965 totaled nearly \$17,000.

Continental serves Kansas City with a fleet of four-engine Boeing jets, twin-engine Douglas DC-9 (newest jet in the skies), and the jet-prop Viscounts. Continental introduced its DC-9s in Kansas City earlier this year. The planes have a cruising speed of 560 miles an hour and seat 70 passengers. Continental has 17 of the short-to-medium range jets on order with an option to buy another six and will substantially increase Kansas City's DC-9 service as more planes are delivered.

New to Continental's fleet will be Boeing 727s, which the company plans to bring to Kansas City in 1967. The medium-range 727 has three rear-mounted engines and a passenger capacity of 114. Continental has ordered five 727s with an option to buy five more and plans to lease still another five with an option to buy.

Southwest Automotive—

(Continued from page 48)

manager of the sales office and warehouse, on the perimeter of Fairfax Municipal Airport and neighboring Kansas City, Mo., Municipal.

Founding of the Kansas City district a decade ago not only confirmed the company's faith in the aerodynamic strength of Kansas and Missouri but also set the pattern for a network of Southwest Airmotive supply centers now ranging from the Mississippi to the Pacific. Thirteen district outlets are in business, the latest opening this month (November) in Burbank, Calif.

Southwest Airmotive's service division at Dallas' Love Field operates the nation's largest business flying terminal and the oldest and busiest jet engine overhaul facility in general aviation.



Between us jets,

We can take you 200 or 2000 miles on Delta!

Delta's Big DC-8s and Convair 880s are long-range specialists. Their new short-to-medium range partner is the hightailed DC-9 which brings the benefits of Jet speed and comfort to many communities for the first time. Next trip, Jet Delta all the way!



DELTA

Best thing that ever happened to air travel



Looking Ahead —
Supporting K. C.
Aviation Industry
All the Way!

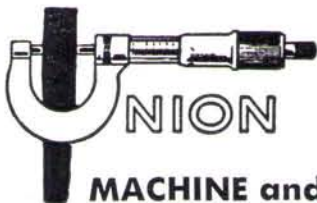
**INDUSTRIAL BEARING
AND TRANSMISSION CO.**
1700 Cherry — K. C., Mo. 64141
GRand 1-6616

Also in Wichita — Topeka — Tulsa — Springfield

Wonderful things happen . . .



When you give Fair Share



**MACHINE and
TOOL WORKS, INC.**

**One of the
Outstanding
Machine Shops
In the U. S.**

► We Invite You to
Visit Us, or Write
For Descriptive
Literature

1141 S. 12th St. FI 2-6000
Kansas City, Kansas

Yard Planing & Sawmill Operation For
Special Cutting & Re-manufacturing to
Unusual Specifications.

100% Lumber Service

- Foreign & Domestic Hardwoods
- Penta Pressure-Treated Lumber
- Prefinished Wall Paneling
- Nevamar Laminated Plastic
- Maple & Oak Flooring
- Western Red Cedar
- Red Cedar Shakes & Shingles
- Cedar Decking & Siding
- Heavy Fir Timbers & Plank
- Long Joists & Exposed Beams
- Fir, Yellow Pine & White Pine
- Yellow Pine Posts & Poles
- Yellow Pine & Fir Flooring
- Cypress & Redwood
- Apitong Truck Bed Flooring
- Rough Cedar Timber & Plank
- Rough Oak Timbers & Plank
- 1" & 2" Common Rough Oak
- Non-Com Fire-Protected Wood
- Plywoods & Wallboards
- Masonite Hardboards
- Porter Paints

For All Industrial or Commercial Needs
THE ORIGINAL—Continuous Since 1880

Schutte
LUMBER COMPANY

PL 3-6262, 3001 Southwest Boulevard
Kansas City, Missouri 64108

TWA/K. C.—

(Continued from page 52)

meant an equal number of tickets. Each of those tickets must be returned to Kansas City, where they are checked for accuracy, and filed. The law requires us to keep them for three years.

Now all this may not be as glamorous as flight or hostess training, or as exciting as the overhaul base, but it is every bit as vital. Without it, we just couldn't operate.

So that's what all these TWAers in Kansas City do. As good corporate citizens of Kansas City, we like to think of ourselves as partners. It's a good partnership. Each has contributed to the success of the other.

To TWA, Kansas City has contributed an environment which nourishes and facilitates our growth.

Here, have been born innovations that have been copied by others. Not only have we maintained TWA's great fleet of airplanes and engines, but others have sought and we have been able to provide the same high quality of service for them that has been a standard for TWA. How? Through the excellence of the facilities and the fine supply of skilled talent native to this area. Kansas City has proven untrue the rumor that skilled talent is available only in the aerospace industries on the West Coast and the highly concentrated manufacturing areas of the East Coast. Some of the most highly skilled people in the industry are native sons of this area.

We believe that TWA, in turn, has been able to make an important contribution to the economy and growth of Kansas City. Most significant is the fact that we have both—Kansas City and TWA—shared in this growth to our mutual advantage.

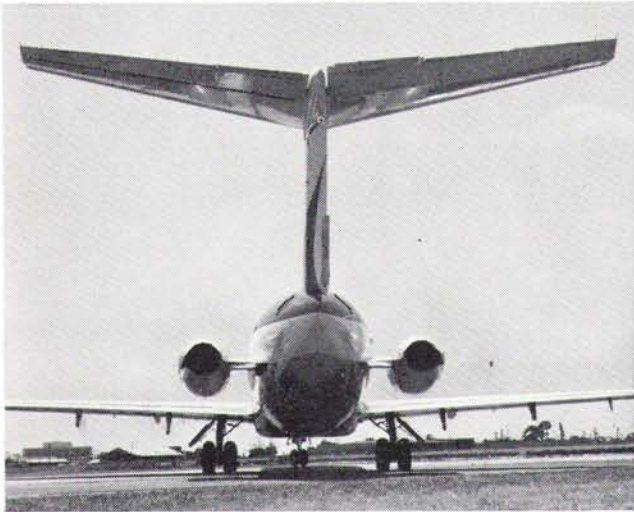
We strive to be a good corporate citizen of Kansas City by supporting the city's aspirations in many of its endeavors. We have actively and enthusiastically assisted the City and the Chamber of Commerce in attracting new industry. We have helped Kansas City project its image by bringing thousands of our people here for training, as well as those of other airlines, and also through corporate and industry meetings. I am sure that after sampling Kansas City's hospitality, these people have become unofficial ambassadors for the city.

However, the past is but a prologue to the future. Our joint efforts auger well for the continuation of our successful partnership into the future.



get up
and
go!

Our new DC-9 JET is the strong, silent type



See? The two Pratt & Whitney jet engines are in the rear. You fly ahead of the sound all the way.

It all began with the Douglas people. They took a pair of smooth, powerful jet engines . . . and mounted them far back on the plane. So what little sound there is, is left behind. You whisk ahead of it at 560 miles an hour.

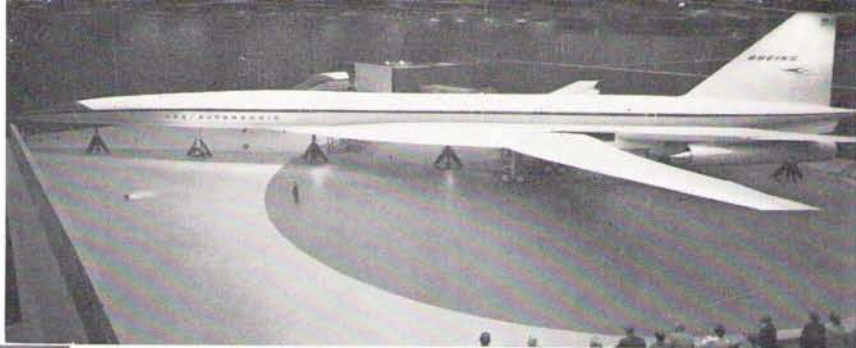
So it's very quiet aboard Ozark DC-9 Jets. Almost silent. You enjoy your continental breakfast more . . . your cocktails and snacks. Sure, read if you like. But we think catching a few winks of sleep is probably the best way to enjoy the quiet. The quiet the Douglas Aircraft Company built into the DC-9 Jet that Ozark brought to Mid-America. Go-getters go Ozark Air Lines . . . quietly.

go-getters go
OZARK
A I R L I N E S
DC-9 JETS
by Douglas

Ozark DC-9 Jets now serving: Cedar Rapids, Ia., Chicago, Ill., Denver, Colo., Kansas City, Mo., Minneapolis / St. Paul, Minn., Moline, Ill. / Davenport, Ia., Peoria, Ill., St. Louis, Mo., Sioux City, Ia., Sioux Falls, S. D., Springfield, Ill., Springfield, Mo., Tulsa, Okla., Waterloo, Ia.

SST

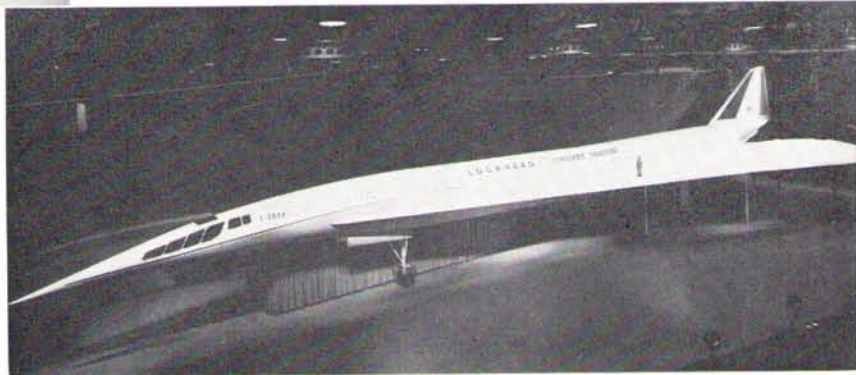
The BAC Concorde SST



The Boeing SST

What Will It Be Like?

The Lockheed 2000 SST



WHAT CAN the traveler expect when the age of supersonic flight dawns?

It's closer than you may think. So far, 25 world airlines have placed orders for 146 supersonic transports (SST's), 50 of the British/French Concorde and 96 of a U. S. design.

The Concorde, capable of carrying 130 passengers at 1450 miles an hour, is scheduled to fly in 1968 and enter airline service starting in 1971. Trans World Airlines has ordered six of them and you will see them in the skies over Kansas City on training flights soon after they are ready. The U. S. model, capable of carrying 250 to 350 passengers at speeds of 1800 miles an hour, is expected to enter service starting in 1974. TWA, which has ordered 10, is first on the delivery list and will, therefore, probably be the airline to introduce the American SST to the world.

In fact, the first flight may very well leave from Kansas City. What'll it be like?

As a passenger, you will notice very little difference from riding in today's subsonic jet. You will find the aircraft interior, including general seating and window arrangement, much like today's, although windows will be somewhat smaller.

The cabin decor will be warm and restful. Cabin temperature will be kept uniformly comfortable. At high speeds, the correct temperature will be maintained not by a heating system but rather by a cooling process, since average outside fuselage tem-

peratures will range between 300 and 440 degrees F. at speeds two to three times faster than sound.

You will notice little sensation of supersonic speed. This is because landing and take-off will be performed at speeds comparable to today's jets, and supersonic speeds will be reached at altitudes so high that speed relative to the ground will appear much the same as in today's jets.

Because of high speed and the location of power plants (tucked beneath the wings at the rear) you will hear little engine noise. And because of recent design improvements, you will detect no buffet as the aircraft accelerates into supersonic speed and passes through the so-called "sound barrier."

Yes, you will be able to see the sun "rise" in the west on certain westbound flights. For example, if you depart London after sunset, you will soon "catch up" with the sun as you proceed across the Atlantic. This is because at that latitude you will be flying considerably faster than the rotation speed of the earth.

And it is true that at cruise altitude the sky will be dark above you where there is little atmosphere to reflect the sun's rays. The view below should indeed be spectacular with the wide panorama of clouds, blue ocean and brown, green, or snow-capped terrain.

The SST will be able to operate in and out of present large airports, taking off and landing at speeds approximating those of present subsonic jets. It will enter supersonic speed regimes upon reaching an altitude of around 40,000 feet and attain full supersonic speed at 65,000 feet and above.

The traveler will find that the SST will reduce travel time in half or better, thus achieving an even greater breakthrough than did its predecessor in 1958 when the globe was effectively shrunk by some 40 per cent. The proposed U. S. SST will have a Kansas City/New York "block-to-block" time of one hour, and a Kansas City/Paris time of about four hours, compared to two and nine hours respectively, at present.

Serving the World ... in the Air!

No matter whether it is only "Coffee, tea or milk" or one of the fine meals served aboard today's airlines, chances are it is delivered to your seat and served to you on a Kansas City product.

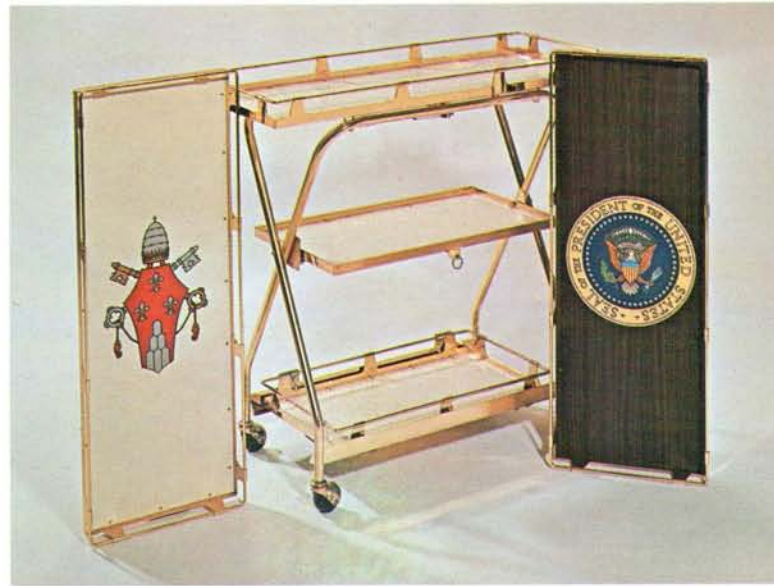
On most any airline today, the aisle serving cart which the hostess wheels to your seat probably was manufactured at Sequal, Inc., a firm which has its home at 1308 West Ninth Street in Kansas City.

Sequal, Inc., specializes in fabrication and assembly of all types of metal parts for all industries, but probably their most interesting product is the serving tray.

Among the airlines that call upon Sequal are Airlift International, Allegheny, Bonanza, Delta, Deutsche Lufthansa, Ethiopian, Flying Tiger, Mohawk, Northeast, Northwest Orient, Overseas National, Pacific Northern, Saudi Arabian, Seaboard Western, Trans Caribbean, Trans International, Trans World, United, Western, World Airways and others.

Sequal also has the distinction of furnishing the aisle serving carts used on the Presidential plane (Air Force One) and the special mission jets which transport visiting dignitaries. Another item of interest is the special cart which Sequal has prepared for anticipated use on future air trips by the Pontiff. This cart has incorporated in the top tray the Papal Seal.

In addition, Sequal furnishes the airline industry with many other varied parts that are required to



Sequal carts bearing the Presidential seal and the Papal seal.

keep this large industry moving its around-the-clock operation. Sequal manufactures the replacement stainless steel lavatory wash basin and counter top assembly used in many of the Convair 880 jets. Structural kits for a Divan window installation in the Convair 340, 440, and 540 aircraft are presently on order from them.

R. V. North, president of Sequal, Inc., started the company as a spare-time project and since 1958 has led its progress from a basement operation to its present quarters.



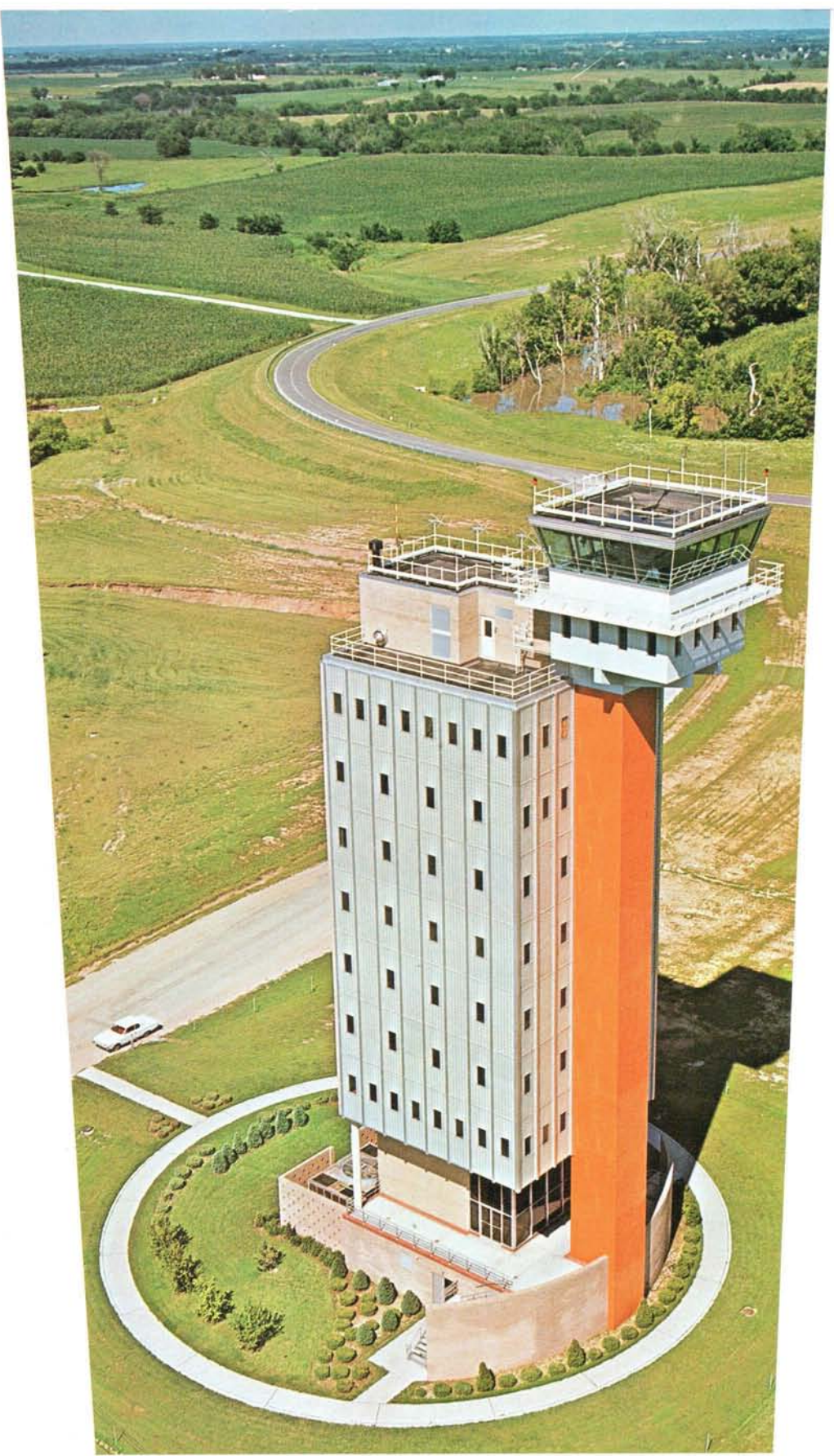
Platte Industrial Park

Located 25 minutes from downtown Kansas City on Interstate 29 — adjacent to the Mid-Continent International Airport — lies Platte Industrial Park.

The park consists of 130 acres of land already developed and waiting for new industry to move in. The park's 14 graded sites available for immediate occupancy offer utilities installed to the lot line, deed and zoning restrictions to protect the tenants, 100 percent financing and landscaping.

One tenant, Sealright Co., Inc., has begun construction on a \$1 million building at the park.

Further information can be obtained by contacting Dwight Bedell, executive manager, The Kansas City Industrial Foundation, Chamber of Commerce of Greater Kansas City, 1030 Baltimore. The phone number is BALtimore 1-2424.



● MCI TOWER . . air traffic control for the future!