Emergency Fleet Of 308 Airliners Ready for Action

In event of war or national emergency, U.S. airlines have 308 giant transports ready to turn over to the military services on 48-hour notice.

These modern aircraft are capable of transporting more than an entire division of troops or more than 5,75 million pounds of vital cargo from coast-to-coast in less than 12 hours.

Support MATS

On military stand-by under direction of the Government's Defense Air Transportation Administration, the airline planes would give wartime or emergency support to the Military Air Transport Service's more than 1,300 transport aircraft. Availability of the airline stand-by fleet means a saving of millions of dollars to the military and the taxpayer. The planes alone, if it were necessary for the Services to purchase them, represent an outlay of close to $348 million. And to this figure can be added the millions of dollars which the military would have to spend for hangars, ground equipment, spare parts and skilled personnel if these planes of America's private industry were not available.

Airlift Capacity Up

In actuality, this Civil Reserve Air Fleet represents only 40 per cent of the capacity of the airlines. But it is capable of providing an airlift four times greater than that furnished by the scheduled airlines at the time of Pearl Harbor—and release of the planes to the military could be done without seriously disrupting normal air traffic.

All of the planes which make up this fleet are four-engined transports introduced to commercial flying since (See MILITARY, page 2)

Test Pilots Go Long Way To Check New Airplanes

Test pilots at a major aircraft plant flew 3.7 million miles in 1953 to check new production models and for engineering test purposes.

This distance is equal to a trip around the world every 58 hours during the year.

The 38 pilots and co-pilots employed by the company made a total of 9,180 flights in the twelve-month period—an average of more than 25 flights each day.

U.S. MUST NOT DELAY AIR BUILDUP—SHORT

House Armed Services Chairman Calls for Strong National Air Policy

By HON. DEWEY SHORT Republican of Missouri Chairman, House Committee on Armed Services

Nothing has restrained the forces of Communism from plunging the world into cataclysmic war more than have the military and industrial might, coupled with the moral force, of the United States.

With the increasing emphasis in our military buildup directed toward the creation, maintenance and exploitation of modern air power, the future peace of the world and security of the nation rest to a large degree upon the superiority of our military air services—and their capability of deterring aggression.

In building this strength, we must not delude ourselves that we can match the hordes of Russia and her satellites man-for-man, gun-for-gun—or even plane-for-plane. I have repeatedly asserted, and fervently believe, that quality of weapons will always prevail against mere masses of men.

World War II Experience

In World War II, you will recall, Japan surrendered with 3,000,000 soldiers based on her home islands. She surrendered because our air forces and Navy had literally burned up and blasted to bits her major industrial and population centers. The destruction—and the victory—both in Asia and in Europe were achieved not by numbers of men but by modern and up-to-date weapons.

It is just this qualitative superiority which we must retain for our air strength in the future.

Any review of our air power status thus must take into account the progress made by the Soviet Union.

The Soviet Menace

Where do the Russians stand today?

Since World War II, the Soviets have steadily increased the volume of their military aircraft production, and are scheduled—according to my best information—to reach their peak production by the middle of this next summer.

Already, we are informed, they have 40,000 military aircraft, compared with a strength of about 30,000 for the United States today.

(See SHORT, page 3)

Queen's Air Travels Cover 15,000 Miles On Global Journey

The airplane has enabled Britain's young Queen Elizabeth to see more of the British Empire than any other reigning monarch in history.

Although the world tour of the Royal couple will not end until the middle of May, the Queen and the Duke of Edinburgh have already used air transports for over 15,000 miles of their journey, which has taken them to seven countries of the British Commonwealth.

And American-built transports have played a major role in this spectacular trip — being used for more than 95 per cent of the distance flown.

When the Queen and her entourage left London in November, they flew 3,600 miles in a U.S.-built four-engined transport to Newfoundland and Bermuda. After a brief visit, they flew in the same aircraft to Jamaica in the British West Indies.

A voyage by sea through the Panama Canal took the young couple to the South Pacific and Fiji, where (See QUEEN, page 4)
**The U.S. Aircraft Industry—**

**Air Arsenal of Freedom**

During World War II, the United States became known as the Arsenal of Democracy—its vast productive capacity geared to produce the weapons needed to win a great global conflict.

The Arsenal of Democracy was dismantled, however, when the victory was won. Orders for military equipment were cancelled wholesale. Many aircraft plants were closed. Those that remained were reduced to a fraction of their wartime production, and were threatened by lack of orders with bankruptcy.

- Millions of dollars of aircraft production facilities, built at heavy cost by American tax dollars, were lost. Demobilization cost the nation heavily—both in dollars and in military strength.

Our air leadership was placed in jeopardy, not as a matter of national policy, but through default.

The Communist attack on South Korea alerted the nation to the dangers of unpreparedness—and to the fact that the only road to maximum security and economy in building our defenses lies in consistent and long-range planning.

It has taken us four years to reconstitute the U.S. aircraft industry, to bring it to the point where, once again, it stands prepared to support the free world's air forces in the struggle against Communism.

In these four years, the U.S. aircraft industry has become the Air-Arsenal of Freedom—manufacturing the aircraft required to deter atomic attack and to preserve a hard-won peace.

In this task, U.S. manufacturers are joined by those of other free nations—England, Canada, Australia, France, Italy, Sweden, Belgium, The Netherlands, and others.

But—just as America has been forced to shoulder the heavy burden of leadership among peace-loving nations—so the American aircraft industry has become the keystone upon which the entire free world's air defenses must rest.

In aircraft production capacity, in facilities, in manpower and in experience, American aircraft manufacturers exceed those of any other free nation—and probably the entire combination of free nations. The British are generally considered to have the largest aircraft manufacturing industry outside of the Soviet Union or the United States. Yet, roughly three times as many persons are engaged in aircraft production in this country as in England. About 10 times as many Americans are building aircraft as are working in the aircraft industry in Canada, our ally to the North.

In the somewhat more than 50 years since the airplane was invented in the United States, this nation has produced more planes than any other in the world—including the Soviet Union—and total U.S. aircraft production approaches that of the rest of the world combined.

U.S. manufacturers have built more jet airplanes than any other nation in the free world. Our engine manufacturers have produced more jet engines—and these engines have flown more hours—than have products of any of our allies.

The aircraft produced by the Air Arsenal of Freedom today stand guard at bases in the continental United States and throughout the free world's perimeter. They are essential first-line elements of the air forces of every major U.S. ally, as well as our own air services. Upon their quality—and major U.S. ally, as well as our own air services. Upon their quality—and the future—depends to a great extent the future peace of the world.
Lessons of Past
During my long tenure in the Congress, I have repeatedly urged awareness of the time-factor in the creation of air power and military strength. Following the devastation after World War II, I urged that we build toward a 70-group Air Force, considered adequate at that time to fulfill our global commitments. Even earlier, I warned that Korea was the real hot-spot of Asia. Yet, when the Communists swarmed across the 38th Parallel in mid-1950, we were not only caught by surprise—but our Air Force had only 48 inadequately equipped groups to meet the challenge. We had not learned that air power cannot be created overnight in a crisis.

Although we have been engaged for almost four years in a vast effort to rebuild adequate defensive and retaliatory air power, we are still three years away from attainment of our minimum goals. We will not have the scheduled 137-wing Air Force, and commensurate modern Naval air strength, until mid-1957.

Modern Forces Essential
It goes without saying that this buildup cannot be delayed without placing the nation in peril, and—once the force goals are achieved—that we must keep this force intact and modernized through the critical years that lie ahead.

Three Points for Air Security
Certainly experience has taught us that three coexistent actions are required to maintain military air strength:

First, we must have sufficient research and development in aviation to guarantee that our forces will at all times be equipped with superior aircraft designs.

Second, we must maintain a level of aircraft production adequate to keep our forces in being 100 percent modern over the years.

Third, we must organize long-term aircraft procurement at a rate adequate to support at least one year's war effort from existing production lines; and must assure that engineering, production and management teams in the aircraft industry are always capable of rapid expansion in event of emergency.

National Air Policy
Such sensible planning for defense can, I believe, best be attained if it is placed in the context of a National Air Policy, developed and subscribed to by the Congress and the Executive Department.

It has long been recognized that tremendous economies are possible through consistent programming of aircraft production. Because of the necessarily high cost of complex modern air power, the Congress must insist, in its present and future authorization programs, that these economies be attained. This, of course, will place direct responsibility upon the military services and the aircraft industry for a continuation of their efforts to reduce the unit costs of aircraft.

With the cooperation of industry and the military, we reach such a three-point program. Endorsed by the Congress and the Executive Departments, we can achieve and maintain the air superiority upon which our national existence depends, and at the same time assure that it is attained at the lowest possible cost to the American taxpayer.

Modern Aircraft Set Speed Marks Before They're Assembled
It takes time to build the modern jet aircraft that defend America. These planes carry the nation which holds world speed and altitude records, are composed of thousands of complex parts required for supersonic combat and high-altitude performance.

But despite the complexity of the production and assembly job, aircraft manufacturers constantly search for better and faster ways to build America's air power.

New Assembly Lines
As a result, some of the planes set speed records even before they are assembled. For example, at one plant, a new mechanized final assembly line has cut more than 5,000 man-hours per month off the production time for a jet training plane.

With a continuously moving line, curving down one side of a hangar, making a "U" turn, and going back up the other, the company has increased production efficiency—and cut costs. The new line has 22 separate assembly stations.

Improved Techniques
Improvements in assembly line techniques are not confined to aircraft manufacturers. At an engine plant, a new-type automatic assembly line has increased engine-building capacity by 250 percent, although the line itself occupies 42 percent less space than a former assembly area used during World War II. Some of the automatic equipment is up to 500 percent faster than the best hand work on an identical operation.

The line has a complete conveyor and belt system that moves along progressively from the time parts are taken off the shelves until they're ready to be applied to an engine.

Another engine plant has speeded production with a new 6,600-foot overhead conveyor belt, moving at the rate of 10 engines per minute. Eleven strategically located loading and unloading places serve as stopping points along the conveyor's length.
The U.S. aircraft industry established "the biggest peace-time production mark on record" during the recent 50th Anniversary of Powered Flight, according to the Aircraft Year Book for 1953, published this month.

With 750,000 workers, the industry produced 12,000 military planes, more than 3,000 utility aircraft, and more than 300 multi-engined transports during the year, the 35th edition of the standard reference work for U.S. aviation reports.

The Year Book is an official publication of the Aircraft Industries Association.

**Review of Activity**

Reviewing the industry's 50-year history, Adm. DeWitt C. Ramsey (USN, Ret.), writes in the foreword to the book:

"Since [the Wright Brothers' first flight] in 1903, the U.S. aircraft industry has produced more than 496,000 aircraft of all types, of which 375,000 were for military use and 121,000 contributed effective participation in the development of the world's commercial air traffic."

The publication reports that during fiscal 1953, more people flew in military aircraft to and from the United States by air than came and went by sea, and that the air transportation industry for the first time employed in excess of 100,000 persons. An average of 44,000 plane movements were handled every 24 hours during the fiscal year by FAA control towers.

With Chicago Midway Airport leading, the 10 busiest terminals in the country for the year—according to the Year Book—were Miami, Wichita, Cleveland, Los Angeles, Denver, Atlanta, Dallas, New York, LaGuardia, and Washington.

The editors (Lincoln Press, Inc., of Washington, D.C.) describe the aviation events of 1953 as "the most spectacular record of achievements in the peace-time history of the nation."

**Reference Material**

The Year Book contains complete descriptions and photographs of 38 military aircraft, 14 civil aircraft, and 51 aircraft engines in production during 1953. In addition, it includes biographies of more than 1,500 key aviation executives in the nation, a bibliography of 197 aviation books published during the year in the U.S., and sections on (1) aviation statistics, (2) the Department of Defense, (3) aircraft industry "...arch," (4) the aircraft industries, (10) engines and propulsion, (11) day-by-day aviation chronology for 1953, (12) a complete chronology of U.S. aviation, and (13) official air records.

The Aircraft Year Book may be purchased from Lincoln Press, Inc., 511 - 11th Street, N.W., Washington 4, D.C. Price is $6.

**Korean War Death Rate**

**Cut by Use of ‘Copters**

The Korean War turned the helicopter into a tool of modern medicine.

Without helicopter evacuation, hundreds of United Nations troops would have died of wounds. But with the speedy and useful copters, prompt medical attention was made possible—and the fatality rate for wounded soldiers was cut to less than half the World War II rate.

During the Civil War, 14 of every 100 wounded soldiers died. The figure was cut to 8 in World War I. In Korea, only two of every 100 wounded died as a result of military action.

So rapid was medical attention in Korea, and so excellent, that Assistant Secretary of Defense Melvin A. Casberg has said:

"If I had a choice of being shot down and critically injured on 16th Street in Washington, D. C., or, in the main line of resistance in Korea, I would have chosen the main line in Korea. Such professional care we have never had before. We have had top-notch men on patient evacuation with helicopters."

**Salvaging Materials**

Savings of $34,000 and 8,000 man hours are expected this year by a major aircraft company through a new materials salvage plan.

**Substitute Parts**

By using 80c fuel nozzles (of the home oil-burner type) in an "expendable" jet engine for powering target drones, a U.S. manufacturer saves $14.20 per nozzle.

**Improved Methods**

An improved method of manufacturing engine fan fairing assemblies in a modern aircraft, has saved $34,497.20 on a Government military aircraft contract. A plastic formed part, which requires only two tools to manufacture, replaces a riveted and welded sheet metal assembly, which required 22 tools or fixtures to manufacture and assemble.

**Government records show that 11,231 U.S. women hold valid pilot's licenses.**

Of these, 5,101 have currently effective medical certificates.

This information comes from Edward E. Slattery, Jr., Chief of the Civil Aeronautics Board's Office of Public Information. Slattery reports that a figure of 16,000 women pilots (which appeared in an article in a recent issue of PLANES) exceeds, by 4,676, the number officially recorded in Civil Aeronautics Administration files.

**Almost everyone has seen the spray guns that painters use.**

But few people have heard about their newest counterparts in the aircraft industry—"spray-guns" that spew a flaming liquified powder at temperatures up to 5,500 degrees Fahrenheit, half as high as those on the surface of the sun! These white-hot sprays, amazingly, are being used to put thin coatings (1,000th of an inch thick, in some cases) of a mixture of ceramalloy—nickel and magnesium on high temperature alloys used in jet engine parts.

The ceramic coatings, though still in the experimental stage, are designed to make the "hot" parts of the engines resistant to the withering heat generated by today's high-powered jets and rockets.

One manufacturer of high temperature-resistant ceramics has successfully tested this new method of application, and has developed a coating which will withstand temperatures up to 3,500 degrees Fahrenheit—10 times the temperature of boiling water—for short periods of time.

**How To Stretch A Dollar**

**Longer Engine Life**

Joint efforts by a task force of USAF and an engine company's spare parts specialists have saved U.S. taxpayers at least $15,000,000. They produced a program for cancelling certain spare parts orders which, in light of the greatly increased durability and engine life expectancy, were in excess of usage requirements.

**Salvaging Materials**

Savings of $34,000 and 8,000 man hours are expected this year by a major aircraft company through a new materials salvage plan.

**Substitute Parts**

By using 80c fuel nozzles (of the home oil-burner type) in an "expendable" jet engine for powering target drones, a U.S. manufacturer saves $14.20 per nozzle.

**Improved Methods**

An improved method of manufacturing engine fan fairing assemblies in a modern aircraft, has saved $34,497.20 on a Government military aircraft contract. A plastic formed part, which requires only two tools to manufacture, replaces a riveted and welded sheet metal assembly, which required 22 tools or fixtures to manufacture and assemble.

**Manufacturing Efficiency**

Estimated savings of $120,000 per year are expected from a new method of fabricating "locating blocks" for heavy bomber parts. The small blocks of solid aluminum, used to check fixtures, hold in place airplane parts such as chords and frames.