

Pentagon, Air Force Indecision Added 18 Months To F104 Production Time

More Than Five Years Used To Build F104

Editor's note: This is the fourth of a series of articles documenting a serious situation in military aircraft production which imperils our national security.

By ROBERT S. BIRD
AND TOM LAMBERT
New York Herald Tribune News Service

Washington—Give the F-104 a couple of seconds at full throttle with afterburner cut in and decide nose pointed at the sky and it will climb right straight up into the upper atmosphere at 6,000 miles an hour. And even faster, though how much faster is a secret.

This new lightweight "Starfighter," manufactured by the Lockheed Aircraft Corp., has been called "The Missile With a Man in It."

Only a carnival man could describe the F-104 with justice, it looks so clean and slim and elite, and at the same time almost toylike. If it would be fun to fly, a real elegant plane, a real dandy.

It can flash straight up more than 92 miles, and streak along "straight and level," as pilots say, at about Mach 2, or twice the speed of sound.

The Air Force Chief of Staff, Gen. Nathan F. Twining, matter-of-factly calls it "the fastest and highest-flying fighter anywhere in the sky."

Airmen begin to glow when they talk about this flying stiletto, and they tell about how fast it came into being.

How fast? Even the Soviets are crowding this country for air supremacy; it took five years and four months to bring out the F-104 from first design study to first production model flight. By Air Force and Pentagon standards, that is indeed fast "lead time," as the development cycle is called.

But the manufacturer of the "Starfighter" says this lead time was excessive, that it was a very long span for even today's complex, high performance aircraft.

In fact, the Lockheed people say that the F-104 could have been rolled off the production line some 18 months earlier if they had not been held up by Pentagon and Air Force indecision—spanning both top level delays and a steady stream of fearful little bureaucratic roadblocks.

It is not known if the Soviets have an airplane in the same class with the F104, but it should not be too surprising if they do. The Soviets have been making remarkable aeronautical strides, apparently not too much hobbled by indecision, red tape and paperwork.

The idea for the "Starfighter" came from American pilots who had been fighting the agile Soviet MIG15s over the Yalu river in Korea. They wanted a light fast airplane "with a lot of attitude and a lot of speed."

No aircraft designer in this country followed the Korean air war more closely than C. L. (Kelly) Johnson, Lockheed's famous vice president in charge of research and development, and his engineering mind had been busy on an aeronautical dream—a fast, light high-flying fighter not for Korean combat but for protection of this country in the air in the years ahead.

What happened to Johnson's dream—its ups and downs—is set forth here in terms of time spans with some slight overlapping, in the life history of the F104.

First Time Span (30 months): In September, 1950, the Air Force asked American aircraft manufacturers to submit designs for a comparatively heavy all-weather interceptor fighter with good range, a completely automatic fire control system and good protection for the pilot. Though such a plane was considerably more weighty and less dazzling in prospect than the Johnson dream airplane, Lockheed entered the design competition and won.

The Air Force authorized the company to begin "Phase I" preliminary designs for the new fighters. Two and one-half months later (one year after first inviting competition for design of such a plane) the Air Force cancelled the Lockheed design authorization. In other words, the Air Force had changed its mind. Further re-evaluation of the Korean air war experience indicated that any new fighter should have more performance, at the expense of range.

Johnson revived his dream. High performance without great emphasis on range could mean a lightweight fighter, just what he had in mind. He went ahead

on his own with designs for just such a fighter and for months he pressed the Pentagon and Air Force to accept them. In December, 1952, the Air Force told Lockheed to start designing a prototype lightweight fighter and in March, 1953, authorized the company to build two airplanes.

Flown in 12 Months: Second Time Span (12 months)—In contrast to the 30 months it took the Pentagon and Air Force to make up their minds on what they wanted in the way of a new fighter, and to start building something, Lockheed made and flew the first prototype F104 in just one year flat.

Lockheed did this, first, by forming a task force of engineers divorced as much as possible from all interference and assigned it one job—to meet a first flight date, March 1, 1954. Not only a date, but an hour: 9 a.m. Both date and hour were met.

Second, Lockheed recruited for its task force the most capable men available.

Third, the company gave the task force a precise set of requirements, not only as to schedule, but for performance and costs as well.

Fourth, having provided for the task force an "environment of freedom," Lockheed gave its chief the maximum authority to do the job as he thought best.

Getting out prototypes in a hurry was nothing new at Lockheed. In World War II the company built and flew a prototype F80 jet in 147 days.

Asked for Go-Ahead: Third Time Span (nine months)—Confident that the F104 design would be successful, Lockheed proposed in September, 1953, six months before the prototype was finished and flown, that the Air Force issue a go-ahead for producing F104s. But for nine months the Pentagon and Air Force backed and filled, waited and processed paper work and studies on the matter.

The question of the right jet engine perplexed Washington, whether or not to take a risk on a not-fully-tried power plant. And the armament, Guns? Rockets? If rockets, what size? And, as always, these were money problems.

During this interlude of indecision, Lockheed did what other aircraft makers have done on occasion to keep programs moving and hold talented staffs intact—it went ahead on its own, preparing for production. In June, 1954, the company was authorized to begin limited production.

Fourth Time Span (20½ months)—Even though produc-

tion had been approved, the F104s were slow to come off the line. For one thing, Washington was having money trouble and could not authorize Lockheed to do much more than buy certain equipment and raw materials which must be ordered far in advance of delivery. The first production model F104 did not fly until June, 1956.

The Present—Today the rate of "Starfighter" production is a military secret but it is certain that not more than a relative few of the wonder fighters have been turned out. Certainly production will be stepped up soon.

The Pentagon and Air Force cannot be blamed entirely for money problems like those which added to the F104 lead time. But they are blamed generously by aircraft makers generally for lengthening lead time through indecision and red tape, and for "setting too many people into the act" in turning out warplanes.

Most aircraft industry executives interviewed complained, for example, about what one called the "dictatorial" attitude of the Air Force's Air Materiel Command at Wright-Patterson Air Force Base in Dayton, Ohio. As of April this year, the Air Materiel Command organization chart listed 72 offices and divisions, the great majority of which deal with the aircraft industry and are involved in nearly every aircraft project sponsored by the Air Force.

It routinely is necessary for an airplane maker to obtain ap-

proval from a host of Wright-Patterson agencies before he can proceed, for example, with an idea or proposal which he is convinced will improve the aircraft he is building for the Air Force.

As for red tape—a top aircraft engineer told this story: One of his draftsmen was assigned one day to make a routine drawing of a simple T-type fitting in a new fighter. It took him about two hours to complete the drawing on a sheet of paper eight by 11 inches. The Air Force requires that all such drawings be titled according to its specifications, so the draftsman went to the specifications to get the title requirements.

The first set of specifications provided part of the requirements and referred him to another set. The second set of specifications referred the draftsman to another volume.

After two days of pouring over specifications, the draftsman obtained all the requirements for the title to his drawing board. But putting the title on his eight by 11-inch piece of paper became a problem. The title turned out to be so voluminous that it covered nearly two-thirds of the sheet of paper, and shoved the drawing itself right off the sheet. He wound up by getting a larger sheet and doing it all over again.

"This," the engineer explained, "is a small example of what we call 'horrible trivialities.'"

"The man-hours wasted in

copied with every little detail of Air Force 'mill specs' is beyond all count. And this wasted time means longer lead time in getting out airplanes."

"Look at it," he explained, pointing to a color picture of the F104, soaring sleek and pristine in its home in the blue yonder.

"Born out of long and heavy labor in a bureaucratic quagmire."

Next: Pentagon Regulation Hinders Electronic Development.

Copyright 1956, New York Herald Tribune Inc.

Dulles May Patch Up Franco-US Relations

Paris—(AP)—French government sources predicted today that next week's visit by U. S. Secretary of State John Foster Dulles will patch up the strained relations between the United States and its Franco-British allies.

Dulles arrives here Sunday—two days before Tuesday's meeting of the North Atlantic Treaty organization council of ministers.

Dulles is expected to meet with French Foreign Minister Pineau and British Foreign Secretary Selwyn Lloyd before the NATO session with the aim of restoring the alliance that was strained severely by the Franco-British invasion of Egypt.

CHRISTMAS SHOP in ONE QUICK STOP at Your Family Gift Center



ACME HARDWARE—your Family Gift Center—offers quick, convenient shopping plus the WIDEST VARIETY OF CHRISTMAS GIFTS in town! We have the PERFECT PRESENT for EVERY PERSON on your Christmas list. We've GIFTS for Men, Women and Children . . . GIFTS for Family, Relatives and Friends. We've personal GIFTS . . . and practical GIFTS . . . and even GIFTS for Pets, too! So, this year, CHRISTMAS SHOP in ONE QUICK STOP at ACME HARDWARE—your FAMILY GIFT CENTER! FREE CHRISTMAS WRAPPING!

LOWEST PRICES FOR HIGHEST QUALITY

ACME HARDWARE CO.

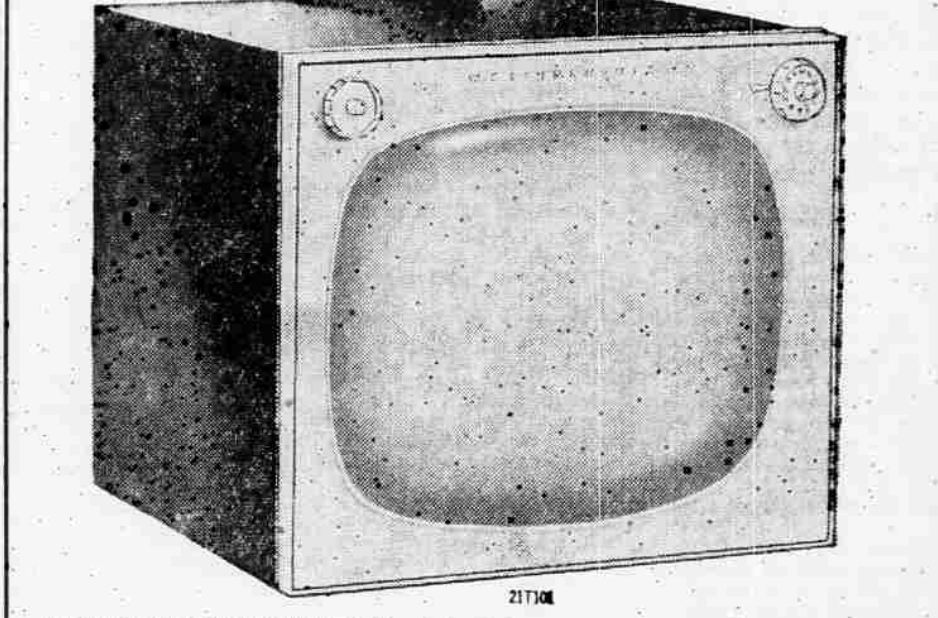
SPECIALISTS IN HOMEWARES!
Free Parking . . . Free Delivery



Newest ever for...

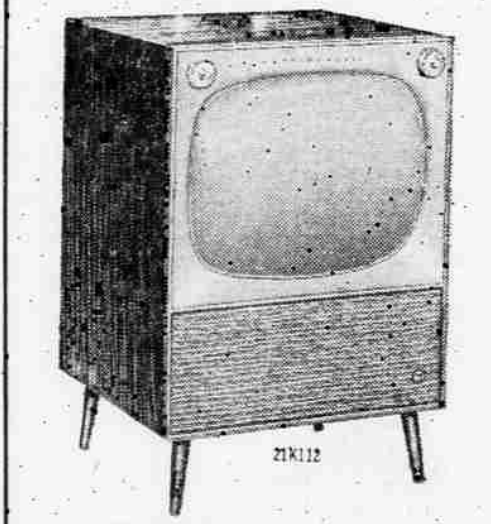
1 ADVANCED FEATURES 2 MODERN STYLING 3 MONEY-SAVING VALUE

Westinghouse Television



THE ADAMS: New 21-inch* Table Model with exclusive "Sculptured Styling." PRECISIONEERED with "Silver Safeguard Chassis" for longer-lasting, more reliable performance . . . unmatched viewing enjoyment. Simplified Tip-Top-Front-Tuning; Aluminum Picture Tube. Mahogany finish. (Control Panel Optional) *Overall tube diagonal measurement.

only \$179.95



THE GARFIELD: 21-inch* Console with Contemporary Furniture-Design. PRECISIONEERED for finer picture. Balanced-Tone sound. Lustrous Mahogany Grained Finish. (Console Screen Optional)

\$229.95

The B-I-G Achievement by Westinghouse

PRECISIONEERED TELEVISION

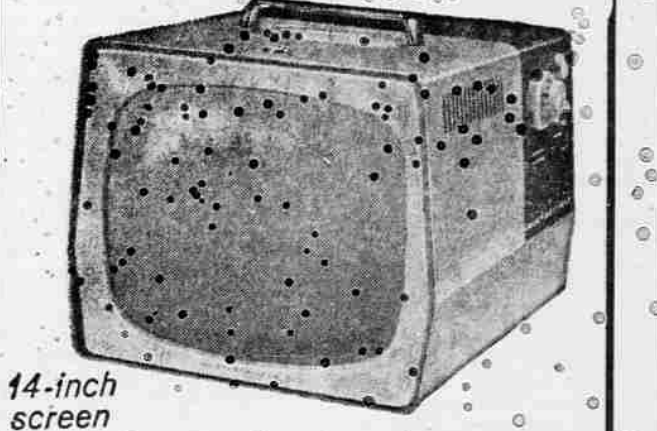
"Silver Safeguard Chassis"



Revolutionary new process assures longer-lasting, more dependable performance—unmatched quality. Circuits and components are bonded in a metal network—can't ever wear out; burn out.

See how new Television can be! See the complete Westinghouse "Presidential" line. There's a model in the style you prefer, at a price you'll like. Compare for picture quality—money-saving value—beauty of styling and design. If you want the finest, you want Westinghouse.

we have it! **NEW** Westinghouse PORTABLE TV



14-inch screen
Just 27 lbs. . . quality and picture-perfection of a full-sized 21" Console. Exclusive PRECISIONEERED power features are your assurance of bright, clear pictures . . . ever out-of-doors. It's all-aluminum . . . in your choice of Smoke Gray, Turquoise and Sand, Terra Cotta and Sand.

Model 14T170 14" over-all tube diagonal. Picture tube area 105.4 sq. in.

ONLY \$129.95 (Price Incl. Fed. tax & warranty)

Performs where others fail!

... in difficult suburban and city areas . . . in broad daylight!

BIG Y APPLIANCE Dept.

IN THE BIG Y SHOPPING CENTER

WATCH WESTINGHOUSE WHERE BIG THINGS ARE HAPPENING FOR YOU!

OPEN WEDNESDAY NIGHTS 'TIL 9

PHONE 3-5052

AT WEISFIELD'S

LAYAWAY YOUR CHOICE NOW

say Merry Christmas with

Longines

THE WORLD'S MOST HONORED WATCH



WITTAUER. A dainty delight! Fevly expansion bracelet. \$35.95 FTI



WITTAUER. Masculine styling, fine expansion band. Low priced. \$35.95 FTI



WITTAUER CALENDAR. Tells you the right time and date at the same time. Expansion band. \$39.75 FTI



WITTAUER. Sturdy, dependable watch with smart alligator strap for him. \$59.50. FTI



LONGINES. Stunning 14K gold case of matchless styling makes this an impressive watch for her. \$89.50 FTI



LONGINES. Unique styling in astoracrafic 14K gold case. \$115. FTI



WITTAUER. Elegant lines, matching expansion bracelet she'll love. \$55. FTI

WEISFIELD'S

127 E. Main Medford Phone 3-5348
OPEN EVERY WEDNESDAY TILL 9 P.M.

Use Our SIMPLIFIED CREDIT! Pay Next Year!