Pathfinder

January 24, 1951: p. 26

Why We'll Win the War

America has a mighty Air Force—on paper; industry must put it in the air

Watching from his office window as a jet fighter swooshed off on a production test flight, a West Coast airplane manufacturer said grimly: "The production demanded of our industry will call for a miracle. A fivefold increase this year? I don't believe we can do it because I don't believe the materials can be available. Our industry can expand only as rapidly as we get more materials, especially metals."

He pointed to a pile of papers on his desk. They showed, he said, that between July and November the items and materials in which his company was short increased by 350%—in July 750 items and today 2,580, including aluminum, steel, fittings, and tubes. Delivery on many items that were coming through in a week from warehouse stocks now takes 22 weeks.

Stepping up output fivefold this year, as demanded by President Truman, would mean increasing deliveries to $10 billion from about $2 billion. Even with the auto industry participating in aircraft production, the demand seems to amount to only an eloquent gesture.

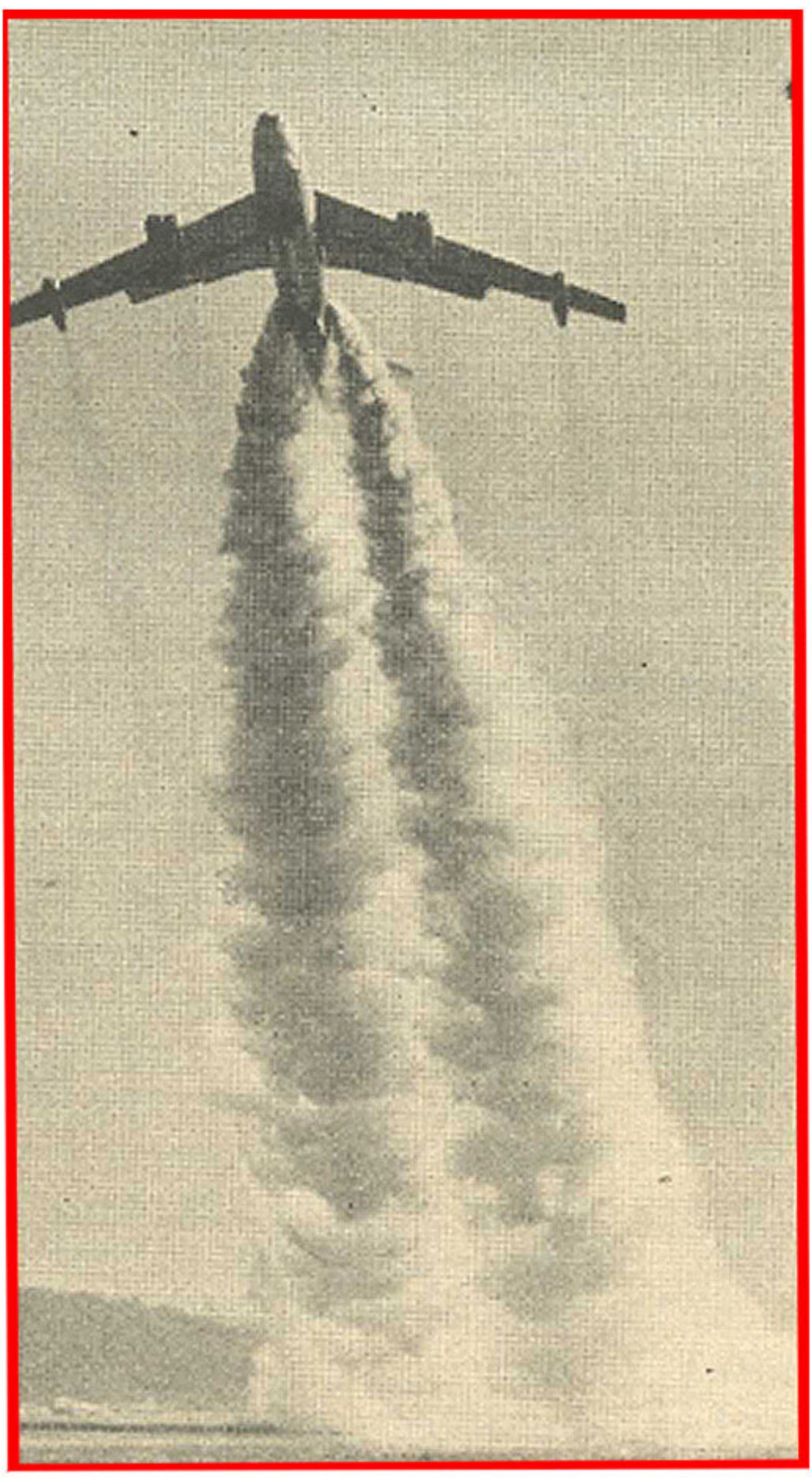
Orders are now going out in flocks. Plants are being "reactivated." It sounds as if the miracle could be performed overnight. But it is highly improbable that a single airplane will be produced by any auto manufacturer or reactivated plant in less than a year from the time of starting. The huge Chicago Dodge plant where the Ford Motor Co. will make Pratt & Whitney piston engines for B-36 and B-50 bombers will be lucky to get its first engine off the line 18 months from the day it took over the job.

Remember Pearl Harbor? In the first two years of World War II the industry multiplied production by three. This time it will be much more difficult —perhaps impossible—because (1) the economy is already tight, and (2) the equipment that goes into a plane, such as radar and hydraulically operated rudders and controls, is far more complicated.

Today's jet engines are simpler than earlier types, but numerous pumps and generators have been added to improve performance. As much as 70% of the cost of an engine these days is represented by accessories.

It all adds up to a need for more skilled help and twice the former training time for workers. Today's counterparts of planes in use ten years ago require four

When the War Comes



Aviation, 1951. ***Behind are mistakes, ahead power through planes like the B-47.***

times as many man-hours to build.

The Government built a $26 million plant at Tulsa, Okla., in the last war—assembly lines for transports and bombers. It is still up-to-date and efficient in layout. Reactivation of the plant was recently ordered. Tulsa newspapers and local commentators excitedly picked up the story. The public got the impression that the plant would immediately open its doors, hire employes and soon be turning out planes. Here's why nothing of that kind can happen:

It will take at least three months to clear the plant of surplus materials stored in it; three or four more months to find such tools of the former setup as can be located. New production lines will be rigged gradually and personnel will be hired and trained. Douglas Aircraft Co. engineers, who will operate it, think they will do well to produce planes in a year or 14 months. This is a typical —and expected—lapse of time between reactivation and production.

Today the industry is short 5,000 engineers. It is advertising widely for any kind, will send them to schools for "conversion." But the need cannot be met except by taking technical men from civilian production. Skilled workers are so scarce that some industry leaders advocate offering 30,000 German artisans a home and freedom with a future in the U.S.—even though unions oppose the idea and some European nations misconstrue our motives.

Priorities. Aircraft Industries Association of America Inc., representing all major aircraft producers, hoped for action by Charles E. Wilson, new Director of Defense Mobilization. Last week, AIA's president, Admiral DeWitt C.

Ramsey, said: "Ours is the biggest and most complicated job of the whole war effort. We hope the mobilization chief will appoint an aircraft agency or committee to deal with manpower, materials, procurement, scheduling and planning. If remedial action is not taken promptly, the aircraft production effort will fall far short of the announced target."

The magnitude of the miracle expected of the industry—with production line participation by auto companies—can best be grasped by measuring our present airpower against our need and against what Russia has.

Few B-36s. Many strategists accept a military formula which says: When the enemy has 2-to-1 superiority in manpower, his opponent must have 4-to-1 superiority in weapons for a chance of victory. In North Korea, outnumbered 5-to-2, our troops suffered defeat in ten days. This poses an interesting question: Have we anything like 4-to-1 superiority in planes to oppose the Russian avalanche?

Instead of the overwhelming strategic air force visualized by Americans as capable of carrying the A-bomb into the heart of Russia, we now have in operation only a scanty handful of modernized B-36s—not a significant striking force.

As of now our main reliance for A-bomb delivery, if we are driven to that, would be obsolete wartime B-29s. We have 1,600, including 1.200 removed from storage since Korea. They have—or will have—new radar bombsights which proved fairly accurate in Korea, in skilled hands at medium altitudes. Improved instruments, new equipment and know-how can presumably enable our B-29s (with heavy losses) to plant A-bombs on vital Russian targets if certain bases are available for take-off. These would almost certainly be suicide missions.

Russia has 600 TU-70s, copied from seized American B-29s. From Siberian bases these can reach one of our vital spots—Hanford, Wash. On one-way suicide missions they could hit any point in the U.S. except the extreme tip of Florida, thus threatening our capacity to produce planes for retaliation.

Including National Guard and Reserves, the U.S. operates about 17,000 military planes, but only 4,400 are first-line units. Russia has 25,000 military

The B-47. *A six-jet, 600 mph bomber building at Wichita. We need production miracles and more plants like this.*

planes—15,000 of them first-line. Good estimates of Russia's production last year run as high as 30,000 planes, a sizable proportion of them for her satellites. For us 1950 was a year of "defense econo-

mies," with military plane production way down to 3,000.

Our naval aviation is ahead of anything in the world, possibly because nobody else has much of a navy. Russia has the greatest submarine fleet, but, apparently no aircraft carriers.

In A-bombs we have superiority, but probably less than optimists would like to believe. Besides the A-bomb, another deterrent must always be prominent in Stalin's mind—the power of U.S. production. He knows that turned the tide in two wars.

How did we come to be where we are? A high-placed Air Force officer said bluntly: "Does anybody need to be told our air weakness today is the inevitable result of withholding from the Air Force funds voted by Congress?"*

Reason for Delay. The Administration's withholding of Air Force funds resulted in some appalling muddles—delays in defense production and millions lost out of taxpayers' pockets, say Air Force officers. They give this example:

Last March the Air Force had to order Boeing Airplane Co. to stop making the B-50 Superfortress after deliveries of the current order. Fastest piston-powered bomber in active service, the B-50 can carry five tons of bombs 6,000 miles without refueling. Although the bugs were not entirely out of it, they could have been eliminated. But lack of funds forced the Air Force to gamble that a more advanced bomber would be ready in time.

Before the last B-50 was delivered, however, the Air Force—because of Korea—ordered the plane back into production on new "token" contracts. Fortunately, Boeing had not destroyed its tools, but suppliers of parts and components to Boeing, knowing B-50s had been canceled, *had* destroyed their tools. To restore B-50 production will cost millions and at least a year's time.

Ground Support. Korea proved our need for a ground-support fighter in such an emphatic manner that today even the public knows what ground support means. The Army and Air Force knew it all the time, but such was the pressure for "economies" by the biggest-spending Administration in history that they could not get such a plane into production.

A modern ground-support fighter should have radar that will show the pilot and co-pilot the ground at night as plainly as a viewer sees what is on his television screen. Radar of this efficiency does not exist, but it might have been here now if funds for developing it had been available.

Without this plane to bother him, the enemy, as he did in Korea, can move troops, tanks and trucks at night and laugh at airpower.

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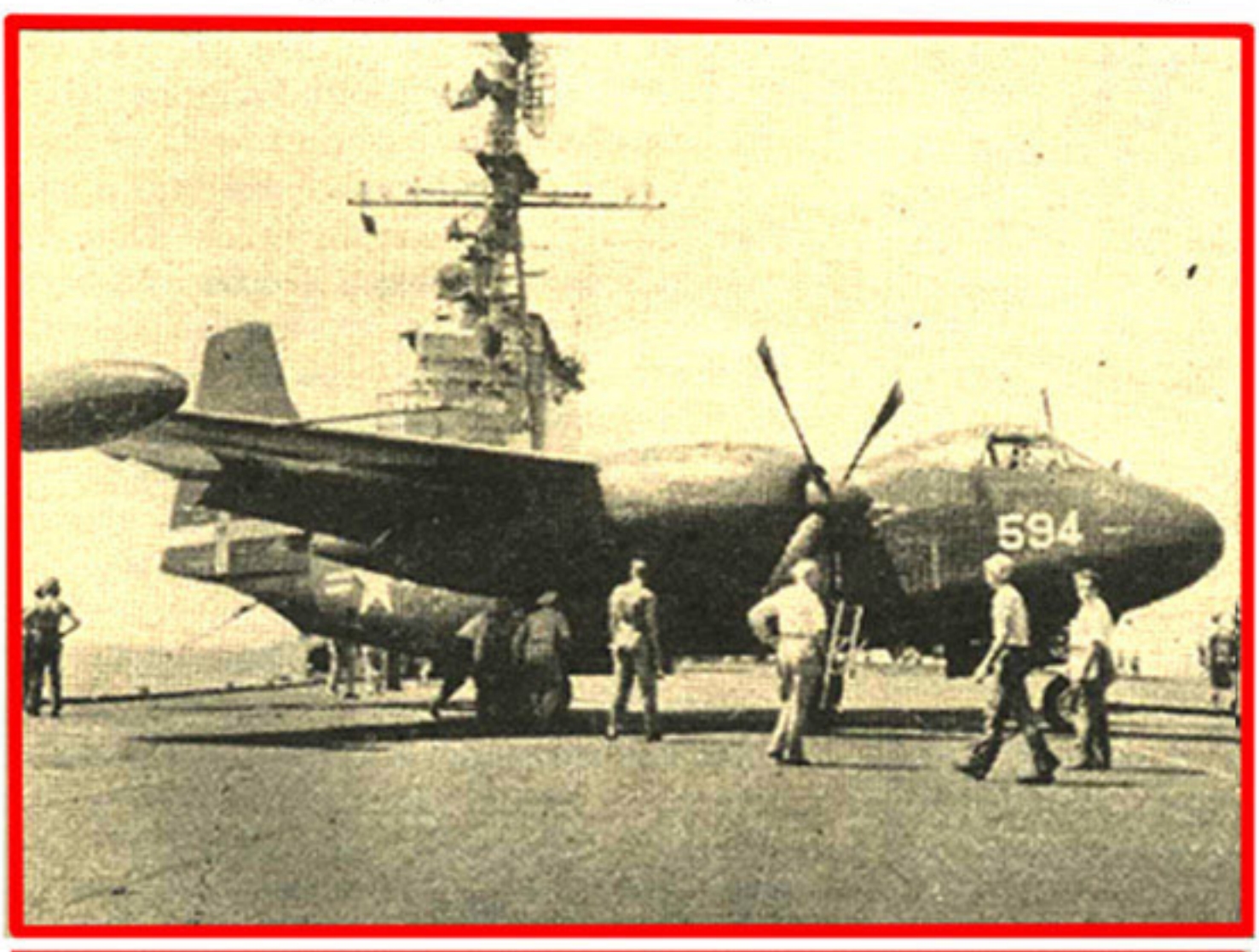
*On Apr. 13, 1949, the House voted 271–1 (Communist Party-liner Marcantonio) to spend $851 million increasing the Air Force to 58 groups. But the President did not spend it. In October he ordered the amount appropriated by Congress put in reserve. None of it was spent until Congress reappropriated it after Korea for fiscal 1951. On June 22, 1950, two days before the Korean outbreak, President Truman said he still was for a 48-group Air Force because "we cannot pay for a 70-group Air Force now."

Good, but Complicated. Two important planes have been designed to use Allison turboprop motors—the Navy's XP5Y-1 flying boat (Convair) and the XA2D Skyshark carrier-based attack bomber (Douglas). The Skyshark is designed for terrific speed, extreme range and a big pay-load. It packs a Sunday



Strategic bombers. *The Navy carrier-launched AJ-1 or the Air Force B-36D can carry an A-bomb to the heart of Russia.*

punch of rockets, bombs and aerial torpedoes and can perform combat missions without fighter escort. Convair's flying boat, the biggest of its type ever built, is designed for outpost bases, to go in before airfields are ready and land men and critical supplies needed early in the operation.

Flight tests indicate they will eventually be superb performers, but unfortunately nobody can say when they will be available. Two crashed recently. Their Allison turboprop motors were designed by General Motors to meet the most complicated and exacting specifications ever set up for an engine—a dual unit, two engines connected by a gear box which drives double counter-rotating propellers. Engineers say General Motors had extreme courage to undertake such a design. Some still think it was foreordained to failure; others believe G.M. will finally come up with a phenomenal product as in the past. When Allison turboprops were first delivered they were able to make only one flight before going back to the factory for repair and overhaul. Today they can make three.

Needed: 18 months. An auto manufacturer who is now cutting back car production to get planes into the air said with impassioned earnestness: "I get a queasy feeling in my stomach when I realize the billions that have gone down the drain for Fair Deal experimentation while we lack a decent, respectable-sized stick to back up our foreign policy—if

we should ever get around to deciding what that policy is.

"But given materials and manpower controls I know we can get a respectable striking force in 18 months. If we go all-out, we can by then have 70 combat groups equipped with modern planes; with luck perhaps a little more.

"Of course, the public should realize that when Administration spokesmen such as Under Secretary for Air John A. McCone forecasts 68 combat groups by next June, they are planning to build a large part of these groups out of obsolete War II planes—planes now in storage and not really fit for a front-line place."

Our Air Force—much of it scattered all over the world, some in being, some just getting into production and some still experimental—is potentially equal or superior to any in the world.

Best Bombers. Among our "red hot" bombers are these:

• • *Convair's B-36.* This $4 million bomber, now in quantity production at Fort Worth, Tex., (170 known to be on order, plus an undisclosed additional number) is a powerful threat-on-the-way. Earlier B-36s are being modified for stepped-up performance. Four General Electric J-47 turbojet engines in wing pods are being added to the plane's six piston-type 3,500 h.p. Pratt & Whitney Wasp Majors. Modernized B-36s will carry a greater bomb load for a greater distance than any other aircraft—10,000 pounds of bombs for 10,000 miles, or larger quantities over shorter ranges. Maximum bomb capacity: 84,000 pounds. Speed: 435 mph above 45,000 feet. Cost of the B-36s to date: More than $1.5 billion, including $40 million for the first two experimental models.

• • *Boeing's B-47.* A six-jet strategic bomber with sweptback wing and tail, it has 18 jet-assist rockets for take-off (see picture on page 26) and has top rating among bombers. While its range is only 2,000 miles its speed is up with the fighters, better than 600 mph, so fast it can go on missions without fighter protection. Enough of them based in England or Saudi Arabia could make Russia uncomfortable. An undisclosed number have been completed; a good guess would be 12. On order: more than 500. In dollars the B-47 is the Air Force's biggest project. If bugs do not develop 100 should be in operation by July.

• • *North American's AJ-1.* This bomber is the heaviest airplane ever to land aboard an aircraft carrier. Capable of carrying the largest A-bomb, it is getting into quantity production at Downey, Calif. Among its main features: two piston engines and one turbojet for acceleration at take-off or in combat; speed better than 350 mph; outer wing panels and tail fold for storage on carrier decks.

• • *Martin XB-51.* This will be an important addition, but exists only in experimental form. The Army, in the light of Korean experience, says it comes nearest to meeting its need for a ground-support plane—nearer than any fighter type yet designed. It can better 600 mph, range far behind enemy lines, fight well

at high altitudes and perform well at low-level bombing. The Air Force, now evaluating it, thinks it could supplement long-range penetration fighters. To get the first production model off the line will take at least a year, and six to eight months more to produce the first 100.

• • *Boeing*'s *B-52*. This long-range all-jet bomber is the big question mark. It is expected to exceed 500 mph. With a range of 8,000 miles and ceiling of 55,000 feet it could put almost any target in the world within reach of North American bases. Unfortunately the first two hand-built models are only half completed.

Short Cuts. By normal procedure the B-52 would be at least three years getting into production from behind security curtains in Boeing's Seattle plant. It would require another two years for it to be available in combat units.

In August 1949 Gen. Hoyt S. Vandenberg, Air Force Chief of Staff, told Congress "we are exerting every energy we are capable of within the Air Force to get a replacement for the B-36." The B-52 was that replacement, but the Air Force was compelled by defense economies to soup up the giant B-36 instead of emphasizing the B-52.

In World War II the famous B-29 Superfort was ordered into production before experimental models were flown. Thus many B-29s were ready to come off the production line when the first test models took to the air. Modifications on production models were made as they came off the line. Later losses in planes and lives due to operational defects caused by these short-cut methods have never been officially revealed by the Air Force, but pilots say they were huge. The nation's unreadiness today may require the same procedure to speed up B-52s.

Best Fighters. For defense at home and knocking out enemy airpower abroad we have well-designed fighters. Again some are in production, others not that far along:

• • *North American*'s *F-86 Sabre*. This pursuit plane flies at 700 mph, has great fire-power, excellent maneuverability. Russia's MIG-15, similar in design, is not believed to be on a par with it. The MIG may be powered with the Nene jet engine sold to Russia by British manufacturers. The Sabre has General Electric's J-47 turbo-jet engine. The MIG has sacrificed armor and range for speed, as did the Japanese Zero. American planes couldn't dogfight the Zero, but could outrun it for a gunnery pass. The Sabre should easily take care of the MIG, which lacks radar and other devices required on a great modern fighter.

• • *Lockheed*'s *F-94 interceptor*. A development of the F-80 Shooting Star, this also outclasses the MIG-15. Its radar will take it to any airborne target, plane or bomber, automatically. When it gets within range the pilot presses a button and an automatic mechanism shoots the enemy down. F-94's phenomenal rate of climb to 40,000 feet in five minutes will keep it out of reach of anything now existing. Speed: better than 650 mph. Lockheed is now all-out on F-94 production;

100 are already in the air over the U.S. and Alaska.

• • *Republic's F-84F Thunderjet.* Last week Air Force Chief Vandenberg announced that this sweptback-wing fighter would be the basic ground-support fighter of the AF. It has exceptional ability at all altitudes, speed in the 650-mph class, a long range and carrics 24 powerful 5-inch antitank rockets under its wings. Only experimental models exist today, but Republic should have the first models out in less than a year. General Motors, now preparing to produce it, should begin deliveries in 18 months.

• • *Northrop's F-89 night fighter.* One of the biggest fighters ever built, it is the successor to Northrop's famous Black Widow of World War II. Already in production with heavy orders, it weighs 30,000 pounds (5,000 pounds more than a DC-3 transport), has eerie X-ray eyes (radar) to penetrate fog, storm and darkness. A twin-engine job, it carries a crew of two (pilot and radar observer). We have only two now, but it's moving into production fast.

• • *Lockheed's F-90.* This penetration fighter (picture on cover) can in some ways outperform any existing fighter. Only two have been built; no production orders have been placed. If war came soon it could go into production, but otherwise planes of still more advanced design will supplant it.

• • *Convair's XP5Y-1 super-seaplane.* It is the world's first experimental turboprop flying boat, 60 tons in weight, designed for fighter-like performance with 350 mph speed and 30-second take-off fully loaded. Among its uses: long-range search and rescue, overseas missions with troops, litter patients, passengers and cargo, combat assignments and anti-submarine warfare. Four XT-40 Allison gas turbine engines of 5,500 h.p. will give it a total of 22,000 h.p., equal to the output of more than 200 modern automobile engines. Last Aug. 30 the huge boat set a new American and world flight record for turboprop aircraft when it stayed in the air for 8 hours and 6 minutes over the Southern California coast. Convair and the Navy have worked together for ten years designing its vastly improved hull.

Magic, Again. Between 1941 and 1945, American airpower became the greatest military arm in the world. But, through shameful neglect, the industry that made almost 100,000 military planes in 1944 was whittled down last year to a "peacetime" 3,000. Today the U.S. must throw onto the scales every ounce of production experience, skill and technique it has.

Only through its supreme effort can the aircraft industry hope to outspeed the clock. It has been asked for miracles of production—impossible miracles. It has every intention of performing them.

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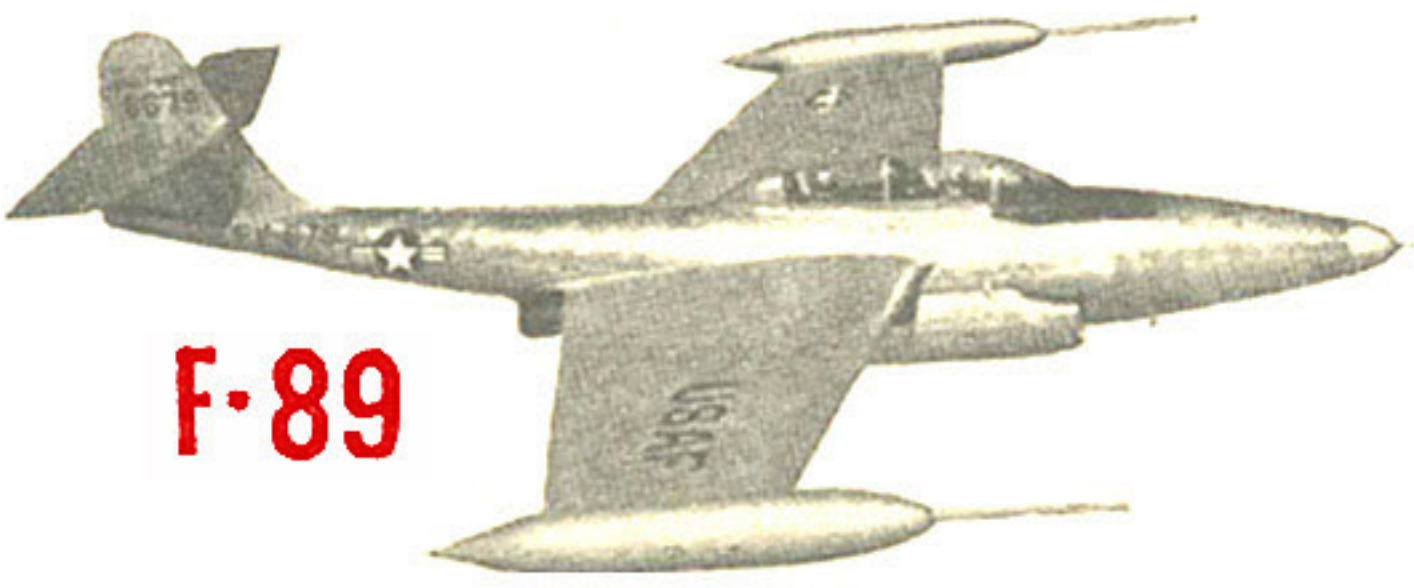
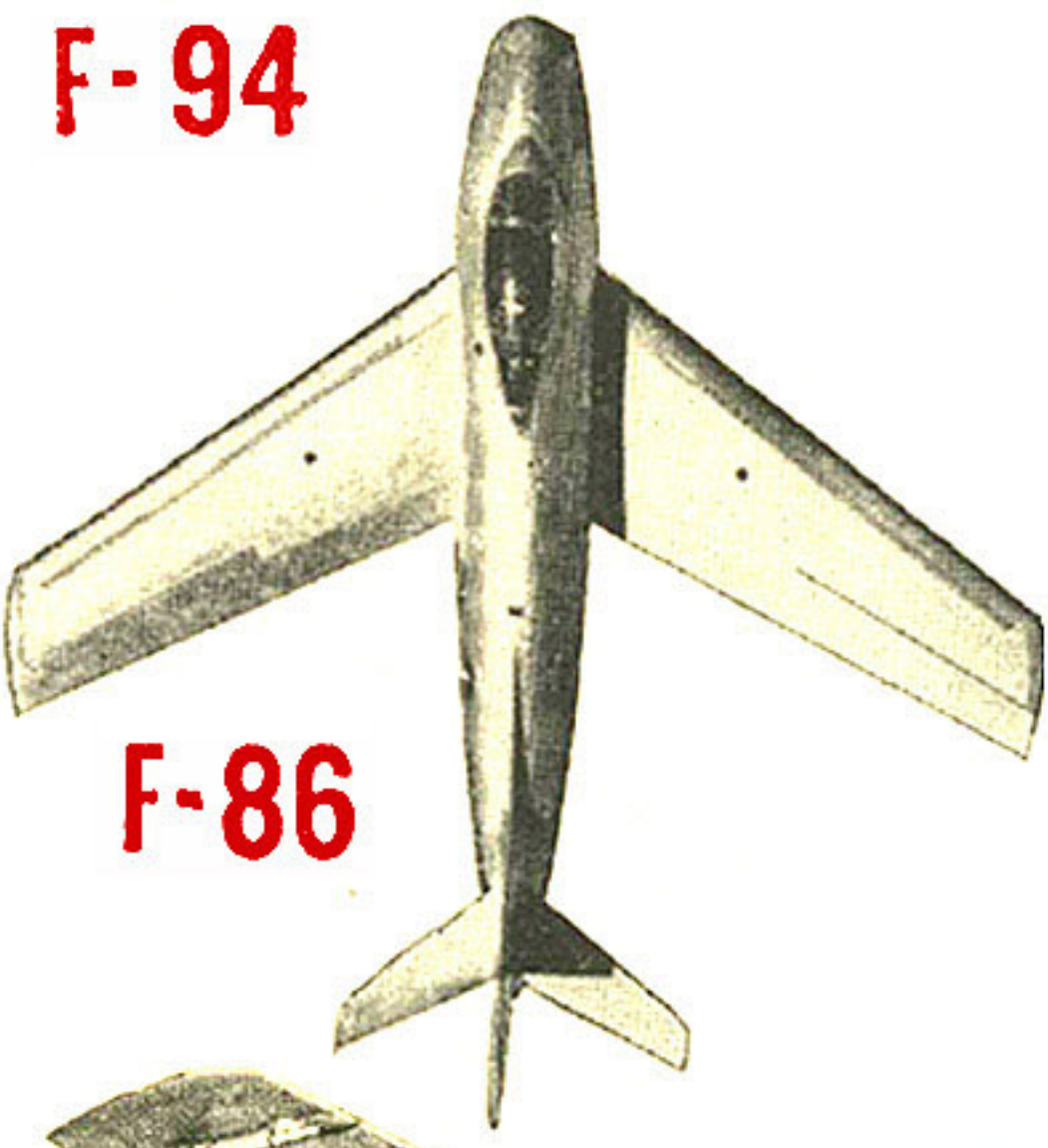
When the War Comes





If We Win the War, Here's Why

"**For security reasons** I have not told the whole truth. But I have told a lot more than has been told before."

That was Business Editor M. K. Wisehart's frank appraisal of this article, after a nation-wide tour of U.S. aircraft factories.

"The big talk being handed out by Administration spokesmen about U.S. airpower cannot deceive Stalin, because he knows what we've got. Is it intended to deceive the American people and protect those responsible for our lack of readiness?"

The author recommends an immediate Congressional investigation behind closed doors to find out (1) how little long-range bombing power we really have now to deal with Russia, (2) who delayed development of the all-jet 8,000-mile-range, B-52 bomber, (3) how much our atom bomb superiority has diminished, and (4) who is responsible for Air Force failure to develop planes to support U.S. ground forces.

"If we win this war or any part of it," Wischart said, "it won't be due to the wisdom or foresight of our political leaders but to what U.S. industry has heretofore conclusively proved itself capable of—an outright production miracle."

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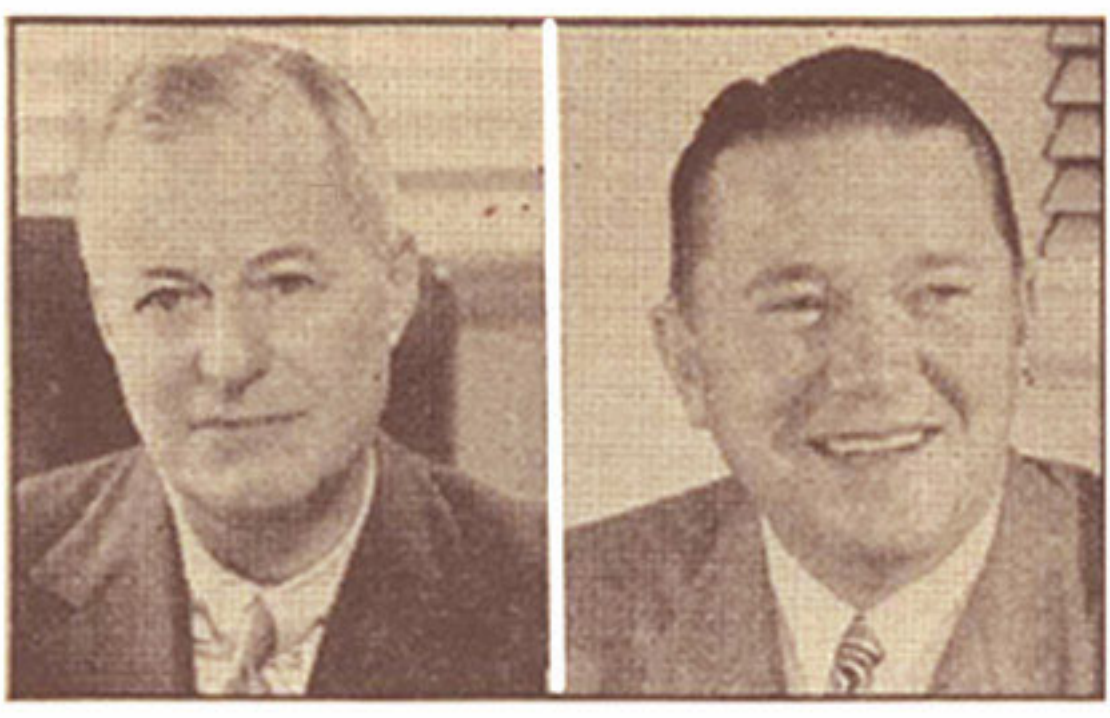
When the War Comes

THE MEN BEHIND THE PRODUCTION MIRACLE



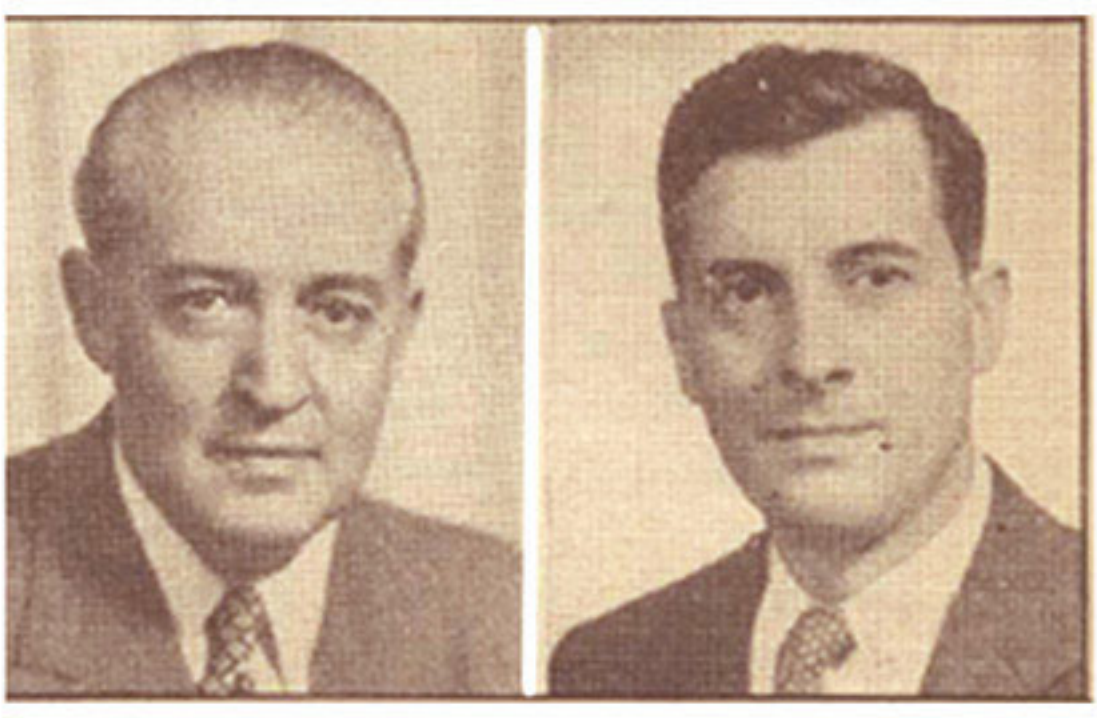
R. E. Gross — *President (Lockheed)*
H. L. Hibbard — *Engineer*

J. H. Kindelberger — *Chairman (North American)*
E. Schmued — *Engineer*

F. B. Odlum — *Chairman (Consolidated Vultee)*
L. T. Cohu — *President*

W. M. Allen — *President (Boeing)*
E. C. Wells — *Engineer*

D. W. Douglas — *Pioneer plane makers*
J. K. Northrop



C. C. Pearson — *President (Martin)*
W. B. Bergen — *Engineer*