

Pentagon Regimentation Hinders Electronic Development in Warplanes

Inventive Genius of Industry Hindered

Editor's Note: This is the first of a series of articles documenting a serious situation in military aircraft production which impedes our national security.

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New York Herald Tribune
News Service

Washington — "They ask us," said a top aircraft designer, speaking about the Pentagon and the Air Force, "to build into tomorrow's airplanes things that go beyond all present human knowledge."

"They want magic in the planes," Black Box magic in its speed and performance; magic in its missiles. And they give us a hurry-up delivery date.

"Then they tell us we have to make this plane for tomorrow according to the experience of the past. They clamp the dead hand of the past on our arm. It's as if we were making cavalry saddles instead of the deadliest and most futuristic electronic-brained weapons ever dreamed up by man."

The engineer was accusing the two official agencies of imposing a rule-book regimentation on the aircraft industry's inventive genius.

The "black boxes" he mentioned are the containers for the amazing complex of radar, radio, fire-control and other electronic equipment which goes into modern warplanes. Much of America's airpower cannot function without the "black boxes." They perform incredible feats. Pilot Like Passenger

The "black boxes" for some planes now being engineered will make the pilot little more than a passenger who goes along for the ride, to be on call if the "black boxes" malfunction.

New warplanes are perhaps the most automatic machines yet invented by man. A man on the ground, with his finger on a button, guides them from takeoff to landing, and "black boxes" do the rest. In the wink of an electronic eye they will search and find an enemy aircraft or missile hurtling through the sky and lock on its track. They drive their parent plane toward the enemy, figure range and angle of attack and then fire missiles, rockets or guns at the target. Other "black boxes" in the missile guide them to their prey for the kill.

Even more marvelous in their capabilities are future warplanes, so secret they cannot be talked about. Such a plane is the new B-58 "Hustler," which flew in prototype model for the first time last month and which will be operational by 1959 or 1960. The "Hustler" is a four-jet, delta-wing, supersonic medium bomber designed to carry atom or hydrogen bombs for the Strategic Air Command.

The men who make these ultra-advanced aircraft say they could turn them out more speedily if it were not for Air Force and Pentagon regimentation in the "specifications" system, and the vast machinery for administering it.

USSR Leads in Production

Soviet aircraft manufacturers may have similar complaints, but they undoubtedly would be discreet about voicing them publicly. The fact remains, however, that the U.S.S.R. is producing more warplanes than this country, turning them out more rapidly, and making great strides in overcoming our air-technology lead.

Specifications, or "specs," as the industry calls them, are the Pentagon's and Air Force's detailed directions — contained in aircraft manufacturing contracts — for building planes according to specified detail down to every last rivet and nameplate.

The supervision of this vast detail rests largely in an organization so unwieldy that it is called "the system" by people in the aircraft industry. This organization, the Air Force's Air Materiel Command, is centered at Wright-Patterson Air Force Base, Dayton, Ohio. It is staffed largely by colonels and junior

officers and civil service "bureaucrats," as the aircraft industry terms them.

It is their close monitoring of "specs" detail that arouses aircraft company officers in their executive suites, bewilders the "longhairs" in factory laboratories, angers the designers in the drafting rooms, infuriates production line chiefs and brings caustic cracks from "Rosie the Riveter."

"Our trouble is," explained the same designer quoted earlier, "that the making of these very advanced airplanes strains all the arts of technology. We must have freedom from bureaucracy to get the answers that no man knows today. 'Specs' in general represent the experience of the past; they're not much good in trying to build airplanes for tomorrow. They only hold us up while we try to make breakthroughs in human knowledge."

Nothing Against Idea
The aircraft industry has nothing against the general idea of specifications. Manufacturers must have specifications to guide them and the Pentagon and Air Force must have guarantees that they will get what they order.

The industry gripes and angers are over the Pentagon and Air Force's minute attention to detail, and what planners call the rigidity, pettiness and dictatorial fashion in which the bureaucracy requires that directions be followed even, in many cases, when they don't make sense. And over the endless buck-passing and delays when reasonable requests are made for authority to deviate from their "specs."

In a typical case, such a request would be addressed to the Air Force or Pentagon agency supervising the particular project. It would go to an officer who might or might not have authority to grant the request. Industry men say many such officers are competent men genuinely interested in advancing the project. But others, they assert, are bucking for promotion and have no desire to stick out their necks for any "deviation." Or the request might be passed down the hall to some civilian laboratory employee quite remote from the particular industry problem and not deeply interested in it.

A typical result in such a case as above would be that the aircraft company would dispatch its "circuit riders" to appeal the case. The latter are engineers who travel from one Pentagon or Air Force agency head to another to explain, discuss and plead for permission to "deviate" from specifications.

Serious Effect
"The delays from deviation requests have a serious cumulative effect on lead time," said the director of an electronics laboratory. "For example, a particular vacuum tube in a 'black box' may heat up a bit fast. We

see that it would be better to move it away from the heat of the surrounding tubes. But to change its position, we have to get a deviation from 'specs.' Getting such permission takes a minimum of a month, probably more."

"The Air Force has this system, we suppose, because some changes would really foul things up. The electronics system is packed tightly into a plane and a small change could mean a change in the fuselage. But, internal changes in a 'black box' wouldn't change the airplane structure and we feel such deviations should be left to our judgement. They are not. The Air Force has hundreds of men in our plant here, overseeing things. But none of them has the authority to make decisions on deviations."

Discussing specifications from another aspect, the head of a major electronics communications company said "government specs" are not realistic. The military will say "design this to run for 200 hours without maintenance." We can't design to such specifications. What are the conditions of use of the item? What range do they expect? Is it to be used continuously or intermittently? Is it to be banged around?"

Manufacturers Complain

There are complaints also about the Pentagon and Air Force from jet engine manufacturers, complaints more against the high than low level officialdom, complaints which add up to longer lead time.

The United States and the Soviets have alternated in the lead in this vitally important field. Until the Moscow air show in 1954, the Pentagon and Air Force assumed that American engines were superior. The four huge jets powering the Soviet Bison as it whistled over Moscow caused consternation. Each engine was estimated to produce possibly 20,000 pounds thrust, much more power yield than any American engine of that date could furnish.

As of today, however, experts believe this country's jet engines at least are on a par with Soviet power plants.

One American manufacturer of jet engines, however, bemoaned the "lack of communications" between various Pentagon and Air Force supervisory agencies.

His company's engine specialists frequently have to brief eight to ten Pentagon and Air Force groups on reasons for changes in their power plants. Although written outlines of such changes are mailed or sent earlier to the groups to be briefed, the briefing team rarely finds that the men who are involved in the project know anything about the proposed alterations. The result? Additional delay.

What applies to delay in obtaining permission for deviations from specifications applies just as much, according to industry men, to modifications in "hardware" already in production. Such "mods," as they are called, went into the General Electric J47 jet engine at the

rate of nine per day for nine years. "Mods" are being made literally every day on the B52 jet bomber and the F102 supersonic fighter.

The aircraft industry accepts the need, even the urgency, for such modifications; in fact, industry generates a big share of

them. "Otherwise," a production engineer explained, "the airplane would fast become obsolete."

But the Air Force must approve such modifications formally and that too entails delay. Air Force officers explain on their side that such changes cannot



COMPLETE TRUNK LINE—The last section of 4,784 feet of 10 and 12-inch sewer line along highway 99 through Phoenix forming the main trunk line in the town's new sewer system, was laid last week. Work that remains to be done to complete the system is the trenching and laying of 12,750 feet of eight inch branch lines. The tie-in with the South Bear creek system has already been made. Above a workman tightens the screw that holds up the shoring in the eight foot trench, while two others clean out dirt that the power shovel could not get. A manhole will go in at this point.

Robert Basey to Appear On Double Charge Dec. 20

Los Angeles — (UPI) — Two men accused of the kidnap-robbery of an Inglewood, Calif., man and his family have been ordered to appear in superior court Dec. 20.

Robert Stephen Basey, 18, of 1324 Winchester st., Medford, and Eugene Sellers Jr., 22, of Los Angeles, were arrested Tuesday by Inglewood police on information received from a man who said he saw the men trying on a Halloween mask in their car.

Admits Part

Sellers waived a hearing and admitted participating in the kidnap-robbery of George Hanback, 41, Nov. 24. Hanback and his wife and two children were forced to drive to a Safeway market he managed where the two men looted a safe of \$2,284. Sellers waived preliminary hearing and identified Basey as the person who received half of the money.

Basey Arraigned

Basey was arraigned Friday in Inglewood.

According to Jackson county sheriff's deputies, Basey is out on bail from Coos County where he has been charged with carrying concealed weapons and contributing to the delinquency of a minor. He is also wanted in Dunsmuir, Calif., for escape during questioning concerning a

petty theft.

Last summer he led Ashland police on a 100 mile per hour chase over the Siskiyou highway before he was arrested by Yreka officers. They held him for Josephine county authorities, who charged him with attempted burglary. The attempted burglary case was dismissed by the circuit judge, who claimed the indictment was faulty.

Officers said his age has often been listed as 21 in the past two years.

GRANGE

Phoenix Grange will meet Tuesday, Dec. 11 at 8 p.m. The Pomona installing team will install the newly-elected officers of Phoenix, Bellview and Griffin creek Granges.

Ladies of Phoenix Grange are asked to each bring one dozen sandwiches.

The nylons that are to be sent to Camp White should be brought to this meeting, and any used greeting cards. The cards are to go with the box of rubber dolls to a children's cottage at Fairview Home near Salem.

Gertrude E. Lewin.
Noah Webster who assembled the first American dictionary, was the master of 20 different languages.

be approved lightly, that they must be studied for all possible effects.

Aircraft manufacturers do not argue this point; but they insist that decisions on modifications can be reached more quickly.

"They waste time on decision-making," one aircraft executive said, speaking of the Pentagon and Air Force, "even on the upper levels. The Pentagon people seem to me just to huddle together and mill around until somebody with guts steps forward and takes the lead."

"It's like when Babe Ruth played center field; if you stay within a 15-foot circle, you won't drop many fly balls."

Munday: How to end delays in warplane production.

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