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SUBJECT Kelly Johnson/Lockheed Corporation

MORLEY SAFER: Kelly is a story about aviation and it's about a legendary character whose name would have been as well known as Charles Lindberg, Amelia Earhart, or even the Wright Brothers if the nature of his work had not made it necessary for him to live a life in the shadows. Kelly is Kelly Johnson, designer of airplanes. He rarely talks to reporters, so the public knows little about him. But half a century he's been celebrated in the private world of aviation design, and this is why.

The P-38 Lightning, the Super Constellation, the F-80 Shooting Star, the U-2, the plane that successfully spied on the Soviet Union until the Russians shot it down in the incident of May 1960, the SR-71 Blackbird. Where did they all come from, these great moments of American aviation -- world aviation, really? Well, all of them came out of the brain of this man, Kelly Johnson, who for more or less 50 years has been designing airplanes for the Lockheed Corporation in Burbank, California.

Back in 1922, when Kelly Johnson was 12, he did what all 12-year-old American boys in the Midwest did. He designed airplanes. Unlike most boys, he's kept those designs. And unlike most, he continued to design them for 60 more years. His life is a virtual summary of modern aviation. Forty different airplanes began life on Kelly Johnson's drawing board. And he's about the last of the one-man designers.

KELLY JOHNSON: We're into an era where a committee designs the airplane. You never do anything totally stupid, you never do anything totally bright. You get an average wrong answer. And very expensive.

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SAFER: More expensive than one man with a bright idea?

JOHNSON: Yes. I think so.

SAFER: But the pressure is on to not be a generalist who...

JOHNSON: Right. Most of the people that we have now coming out from engineering schools either specialize immediately, or else they want to join the sales department with an unlimited expense account, become the vice president in charge of sales.

SAFER: Kelly Johnson's heyday was the years that he ran Lockheed's famous Skunk Works. It was and is the company's most renowned, yet most secret facility, named the Skunk Works after the main industry of Dogpatch, a factory where things of an uncertain nature were brewed up.

When the government wants something that will fly higher or faster or more invisibly, it is usually to the Skunk Works that it turns.

Though Johnson's retired, he's still believed to be helping on a new plane that may nor may not exist, the Stealth bomber.

Can you tell us anything about Stealth?

JOHNSON: No, except we started back two years before the U-2 was shot down to work on it.

SAFER: Nothing else?

JOHNSON: No. I've got to be stealthy too.

SAFER: Other than -- 'cause this has been published, I guess, that this plane will be, in effect, invisible to radars that exist right now.

JOHNSON: Happy New Year.

SAFER: [Laughter]

JOHNSON: No comment. If I can talk about it, it's obsolete. And the other motto is, you can't put your foot in your mouth if you keep your mouth closed.

SAFER: What are the physical limitations on speed? Can we go -- we're going Mach 3 now, plus. Can we go 4, 5? And can we go as fast as light?

JOHNSON: The need for going to those speeds is decreasing every day that we learn how to use unmanned airplanes. And it would take too much money for what you get to make it. And I see less and less need for it commercially. Because with the satellites here, in the shape they're developing, why send a man's body halfway around the world to Bahrain or someplace to have a meeting when you can just sit down at your desk and talk with the speed of light? So have your conferences by TV. You don't have to do all this traveling. It's bad for the airline business, but you only travel when you're going to take a vacation.

SAFER: Good for the body and soul.

JOHNSON: Yes.

SAFER: Two examples of Kelly Johnson's genius, these two black beauties: the U-2, a plane the world never heard of until the incident of May 1st, 1960; and the son of U-2, the SR-71. Both were designed to snoop from a great height at great speed.

If it bothers you that these are weapons of war, or of cold war, try to look at them as extraordinary works of art, art designed according to the rules of physics, but designed also to defy the rules of nature. And besides, these two don't shoot, they just look.

[Visuals]

This version of the U-2 is still in use for certain missions. It can fly at 70,000 feet. It can actually fly much higher, this plane whose basic design is 25 years old, but the Air Force won't say how much higher.

The SR-71, operational since 1966. Its profile is fairly familiar, but most of its innards are still top secret. It can fly beyond 85,000 feet, beyond 16 miles high, at three times the speed of sound, plus. The Air Force won't say how much plus. But it can fly New York to Los Angeles in an hour, maybe even faster.

SAFER: And what's the story of this plane, the genesis of the U-2?

JOHNSON: Well, it started back around 1952, when it was perfectly evident that we in the United States needed to overfly Soviet territory to find out what they were doing militarily. We were not making any progress with people on the ground. They weren't getting out. So I prepared a proposal and took it back to the Air Force on an airplane that would fly over 70,000 feet

sufficient distance to do the job.

Well, they didn't believe it. They said, "The engine won't even run at altitudes that you're talking about."

SAFER: I heard stories that when Gary Powers took off, I believe from Turkey, on his last run, that in fact the Russians hadn't knocked this plane down when it was over Russia, that the plane was sabotaged on the ground. True or false?

JOHNSON: That's false. We know pretty well what happened to it, because in 1956, when we had been overflying for about a year, Gromyko, at the United Nations, talked to John Foster Dulles and said, "You fly over us again, we shoot you down." And Dulles said, "Well, why don't you?" So we flew for four years, but then they did.

SAFER: What about the attempts, the previous attempts at to knock down the U-2s?

JOHNSON: Well, we had actual pictures taken on some of the overflights there were as many as 35 Russian fighters trying to get up to get it. In fact, we'd call that the aluminum cloud that was obstructing our photography.

SAFER: You mean from the cockpit, from the...

JOHNSON: Taking a picture there down toward the ground.

SAFER: They were going through a...

JOHNSON: There was a whole maze of them down about 35,000 feet.

SAFER: I heard at some point the Russians, in their attempts to knock down U-2, knocked down some of their own planes. True?

JOHNSON: On that very day they knocked down two of their own before they hit Powers. He was lucky to get out.

SAFER: Gary Power was shot down, but parachuted safely to the ground. The Russians put him on trial for espionage. There were those who said he should have taken the poison that the CIA provided him with. He was eventually traded for a Russian spy and came back to freedom in the United States.

Should he have killed himself?

JOHNSON: Absolutely not. He did exactly what he should have done.

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SAFER: Which was?

JOHNSON: It was his decision to do it if he wanted to. And he chose to live.

SAFER: So here we have the U-2, which was, I suppose, the Wright Brothers' version of a spy plane compared with the...

JOHNSON: The SR-71?

SAFER: The SR-71.

JOHNSON: Well, we expected two years before the U-2 was shot down that we ought to be working on something that will go higher and faster and further. And so we again made a proposal to the military and the CIA that we build a Mach-3-plus airplane.

SAFER: And Mach-3-plus being three times the speed of sound...

JOHNSON: Over 36 miles a minute.

SAFER: And maybe more.

JOHNSON: Or more. We're allowed to say plus, but not how much more plus.

SAFER: Okay. So what -- is this knock-downable? I mean is this where the U-2 was on the eve of the Russians developing something that would knock it down?

JOHNSON: They have not hit it, because of special design characteristics of the airplane, as well as its speed and height.

SAFER: By special design characteristics, I assume that means something that baffles the radar that...

JOHNSON: Yes.

SAFER: Tell me what goes through your mind when you roll out a new airplane that's never flown before, something you've designed and you see a young man get in it and start to roll down the runway?

JOHNSON: What did we forget? What did we forget? And I'd like to take two days of doing nothing to the airplane, leaving it sit there, and then just thinking, "What have we forgotten to do?" And some important things will come up that way.

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SAFER: Do you utter a prayer at the end?

JOHNSON: If you haven't been doing that all year, something's wrong.

SAFER: Do you always try to apply your own...

JOHNSON: I do indeed.

SAFER: mistakes and...

JOHNSON: I always used to say that if I didn't have the hell scared out of me once a year flying in one of our machines, I should quit designing.

SAFER: One machine that Kelly designed did scare many pilots, the F-104 Starfighter. As the main combat plane in the West German Air Force, there were problems: 118 pilots killed over 22 years.

JOHNSON: The problems were primarily in Germany, and with insufficient training. The average pilot flying seven hours a month, which is just not enough to keep current. And they'd go in in formation, fly right into the ground because they'd follow the lead airplane.

SAFER: Well, what are you saying, that the plane was too hot for the pilots?

JOHNSON: Too hot for the pilots, and they gave it a very tough mission to do. They almost doubled the weight of the airplane. It went from 17,500 pounds take-off weight to 31,000.

SAFER: What did they heap on it?

JOHNSON: An atomic bomb, all kinds of cameras, more ammunition, more fuel. So it was a completely new airplane.

SAFER: Do you count on everything you design being a hundred percent perfect?

JOHNSON: No. I could only point to the record, probably about 51 percent right.

SAFER: What was your big disappointment?

JOHNSON: Well, a big disappointment was our vertical-rising airplane that would sit on its tail and climb straight up, hanging on two big counter-rotating propellers. And it was supposed to back down the same way. It was supposed to be able to land on a boat with the deck pitching up and down 20 feet.

Well, we practiced on clouds and everything else, and we found out that you could do all these things, but you couldn't look over your shoulder when you got close to the ground and guess how high you were. So after a few abortive attempts I wrote the Navy a letter, "Dear Navy. We're afraid to fly this thing." And this is the only time I ever had to eat that much crow on an airplane. And they said, "Well, we agree with you."

SAFER: Your airplanes -- all weapons, but airplanes in particular just cost so much money, and cost much more money than they tell us, than you fellows tell us they're going to cost.

JOHNSON: Yes.

SAFER: They go over budget by factors of 10 or 20 or 100, even.

Can we afford to keep designing new and better aircraft?

JOHNSON: Well, if you project the increasing cost of military airplanes over the last 10 years to the year about 2000, there'd be enough money in the budget to buy one airplane for all the services. It'll be that expensive.

Who would have thought that a Navy fighter like the F-14 would end up costing you \$40 million apiece?

SAFER: And particularly when the airplane that cost \$40 million and somebody can knock it down with a \$2 bullet.

JOHNSON: Hand-held weapon. Yes. That's why I don't understand the discussions that have gone on in the Department of Defense about flying a tank in a C-17, or anything that'll hold it, like a C-5, to the front line of a battle. You could risk a \$100 million airplane and a \$4 million tank to one guy on the ground shooting when it come in to land. And what can you do with one tank, which can also be knocked off by one man on the ground?

SAFER: So what are you saying?

JOHNSON: Don't fly tanks around.

SAFER: So what happens? Because there's a limit, as you say, to the degree of sophistication. Every time you make a faster plane, you make a better missile to knock it down with.

JOHNSON: It's a losing battle. It ends up and proves that the best airplane to be designd is going to be a crop duster.

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SAFER: Top speed of 85 miles an hour.

JOHNSON: I don't care. It can feed us, it can keep us healthy, and save our country from starvation, and a lot of other countries. The crop duster is the plane of the future.