



Eldon Joersz: Meet the fastest man in the air

Forty years ago on 28 July 1976 Major General Eldon W. Joersz flew into the FAI record books by setting a [world air speed record that still stands today](#).

Flying with George Morgan as reconnaissance systems officer, Joersz hit an incredible 3,529.56km/h (2,193.64mph) over a steady 25km straight-line course. Covering almost 1km every second, and at 80,600ft, the pair flew at Mach 3.3 above Edwards Air Force Base in Southern California.

They were flying the legendary SR-71 Lockheed Blackbird, a long-range strategic reconnaissance aircraft operated by the US Air Force for three decades. In service from 1966 to 1998 only 32 were ever built – and only 135 pilots ever qualified to fly one.

In the run-up to the 40th anniversary of this historic record flight, we spoke with General Joersz, now 72, by phone at his home near Dallas, Texas.

General, thank you for agreeing to talk to us at the FAI

You're welcome. I'm honoured to help remember this great airplane and the men who flew her, designed her, built her, and those who maintained and supported her.

This plane was pretty special, wasn't it? The SR-71...

You know SR-71 is certainly the official designator, and it was called the Blackbird. But we all knew it as the Habu. In Okinawa, Japan the locals thought it looked like a native cobra called the habu. So we picked up on that. You got a Habu patch after you flew your first operational mission.

How did you come to fly the Habu?

I was an airforce operational pilot. I had flown the F-105 in Vietnam, then I was an instructor, when I was selected to go fly the SR-71.

In my mind I was a fighter pilot, so when this opportunity came up initially I was reluctant because it wasn't a fighter, it couldn't pull a lot of G, it was just going to fly high and fast.

But as I got into the airplane and started flying it I realised what a magic machine it is, and how unique it is in so many ways. To fly it well it requires some concentration and some desire.

At any one time there were probably only 13 qualified pilots for the airplane. I'd been flying it about four-and-a-half years when this record was set.

What was the story behind deciding to set the record?

The visionary for these records was Wing Commander John Storrie. And the other guy was Jim Sullivan, squadron commander at the time. Jim Sullivan in particular was a real close friend of mine. He was the SR-71 pilot that flew New York to London in 1hr54mins in 1974.

At the time the decision was made to set three records. A 1,000km closed-course record; the Mach

Sustained Altitude record; and the world absolute speed record. The Soviets held one, and we held two.

A decision was made to break all three. This was 1976, the time of the United States bi-centennial. There was an effort to fly them in time for the 4th of July celebrations, but as things worked out the arrangements couldn't be completed.

So the decision to set the records was political, you could say?

There were always people who said, 'This airplane is too expensive, why are we still flying it?' And there were other people who said we needed to keep the airplane visible – so that people realised we had this great capability available.

There was a short discussion about flying the airplane around the world. But in the mid-70s there was a fuel crisis. So, burning all that gas probably wouldn't have been wise.

Instead they asked, 'What can we do in a normal, training-mission context?' They came up with breaking these three records. It wasn't a matter of whether the airplane could do it – it was a matter of just getting it coordinated, scheduling and going out and flying them.

And recording it

And recording it, yes. We had the FAI Observers down at the radar tracking sites and from where we flew.

So you flew the record on the 28th July...

Actually we flew it on 27th July. All three records, three different crews. But the record book has the 28th. And the reason for that is that there was partial cloud cover.

These records had to be measured very precisely in terms of altitude, and because of that cloud cover they weren't able to verify the altitude. So we flew it again on the 28th.

The speeds were basically the same each day. I got to fly it twice.

The 25km course was measured by radar above Edwards Air Force Base. You fly through that 25km box at 2,194mph... Do you even know you've gone through it?

The airplane had very sophisticated navigation equipment, so when we were getting ready to enter the box yes, we knew where we were.

When you enter that box you establish your altitude for the rest of the record – in my case, it was 80,600ft. You establish that and then you have to exit this 25km within 150ft. So it's a level flight record. And you cannot decelerate, it's a sustained, level flight.

Once you fly through it you have to turn around. In our case we did a 90-degree left turn, 270-degree right turn, back down and then enter the course going the opposite direction.

When you enter the course for the second time you have to enter at the same altitude, plus or minus 300 feet. And then again exit plus or minus 150 feet of your entry altitude. So then they measure your two speeds and they average them, and that's the record.

There is a lot of technical flying in there. That turn, what sort of G are you pulling in that at 2,000mph?

[Laughs] Well, at altitude and above Mach 3 the airplane was restricted to 45-degrees of bank. So by definition 45-degrees of bank is 1.5G. A pretty big wide sweeping turn. The turning circle is 180-miles in diameter. We were coming through California into Nevada, Arizona and I think Utah.

How did get the plane to fly as fast as possible?

The airplane was designed so its maximum speed was Mach 3.2, which was also its optimum

speed. But you could go as high as 3.3, as long as you didn't exceed the compressor temperature limit of 427-degrees Celsius.

In our case we got to about Mach 3.29 before we got to 427C. So basically we were at 3.3 and 427, right on the max allowable for the airplane. And that's what we flew the record at.

You obviously didn't have GPS back then. How were you navigating?

It had a very sophisticated astro-inertial guidance system tied into an auto-pilot. So maintaining the course and being on course was pretty routine.

What wasn't routine was the altitude part. When you are up at 80,000 ft you don't really care too much about altitude usually. But in this case I was worried about the altitude, as well as speed. To be plus- or minus-300ft was probably the most difficult part of the whole thing.

So the big question. What is like flying a plane at 2,200 mph?

It's like anything, if you are driving a car or riding a bicycle and you are doing it at max speed then that is more difficult, you have to pay a lot more attention. One little movement can mean a lot more.

That's where we flew the SR-71 all the time. It wasn't difficult, but it was precise, it demanded your attention and it demanded smoothness.

What's it like in the cockpit?

It's a tandem airplane, so pilot in front and one back. There is a hinged canopy for each. You can see out, but it's very thick quartz glass. It's quartz glass because the outside air temperature at Mach 3 on the glass is about 550, 560 degrees. So the glass is very hot.

It's hot inside too. You're put in a pressure suit, and flying in a pressure suit is like flying with an asbestos glove, or a heavy canvas glove. When you held your glove against the glass it was very hot, you couldn't hold it there for long. So it's a hot, small cockpit, and not a lot of room to move around – you're strapped into the ejection seat.

Did you have good communications between the two of you?

Yes. I used to joke that because we were flying at three times the speed of sound, the pilot could talk to the guy in the back but the guy in the back couldn't talk to the guy in the front!

There wasn't a lot of chatting because you're busy doing what you're doing, but during non-critical phases of flight you might chat a little bit. But generally you're reasonably quiet because you're paying attention to flying and the guy in the backseat is monitoring his equipment.

When you flew the record, was it noted at the time that you'd broken it? Who said what?

After we went through the second time, after a minute or two, control came up and said, 'Unofficially, the record is 21-94'. They knew what it was right away.

Did you have a little cheer to yourself or did you just carry on straight and level?

[Laughs] Our informal goal between the two of us – because we had no direction of how fast to go, they just said 'break the record' – was for 2,200 mph. So actually, we were quietly a little disappointed that we'd missed it by 7 mph!

After the flight did you just come back to land?

We came back and made a high-speed pass over the tower, perpendicular to the runway central line. So that was probably a little bit unique to the control tower guys! I've heard stories about them talking about it. Then we pulled up for a 270 and did a normal landing.

How many hours did you fly in this aircraft?

772.

So this was just one hour, and it was a fun morning off really?

Yeah, right, exactly. Truthfully, for us at the time it was just a fun thing to do. It was not Earth-shattering. We just felt really fortunate to be the guys getting to fly the airplane.

General Joersz will be at the Aviation Museum in Georgia, USA on 28 July 2016 as part of the celebrations around the 40th anniversary of the speed world record. The original SR-71 (17958) that was flown to set the record is on permanent display at the museum.

Pictures

Find rights-free photography at:

www.flickr.com/photos/airsports_fai/albums/72157668629626053

Press release

www.fai.org/downloads/fai/pr_28Jul1976_JOERSZ_Eldon_speed_record

Record file

www.fai.org/fai-record-file/?recordId=8879