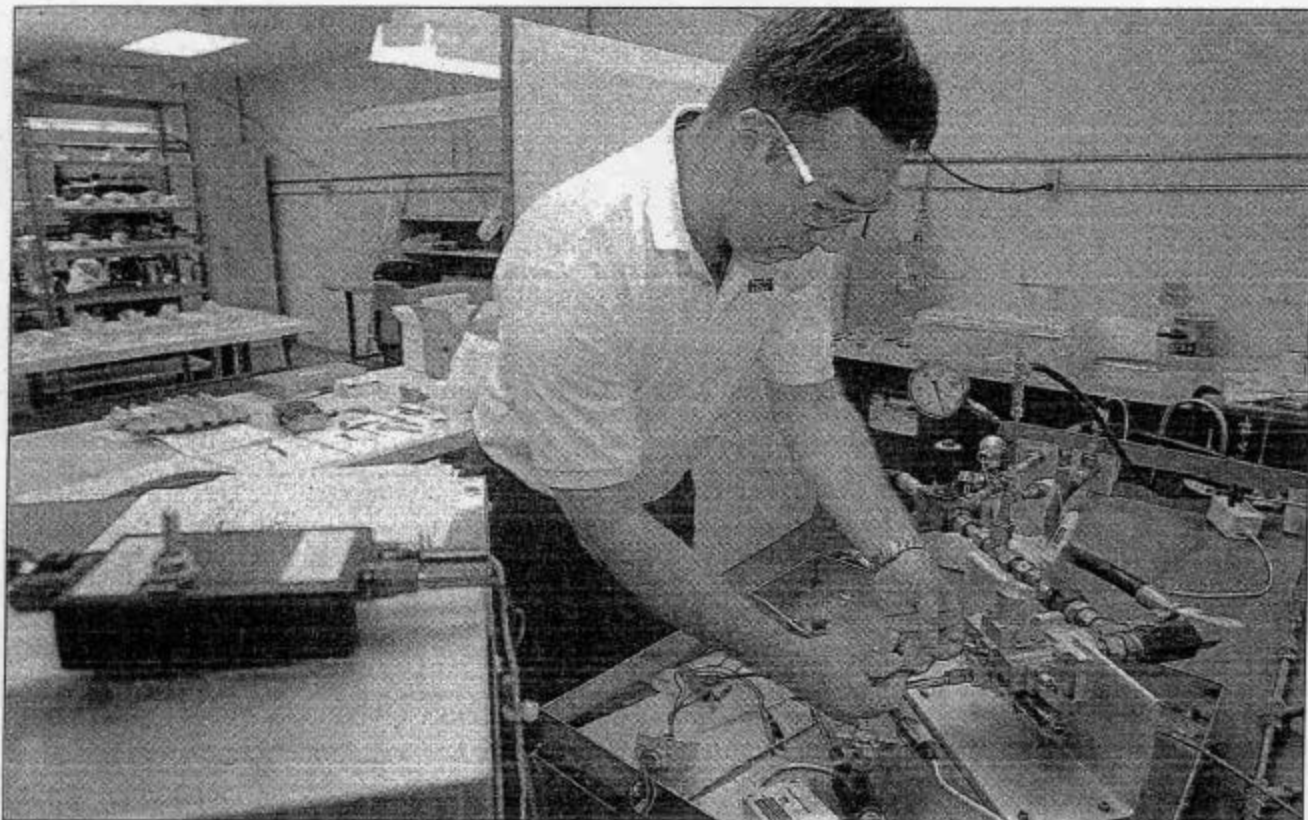


Business

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ROCKET SCIENCE: Jansen's Aircraft Systems Controls engineer Dave Shields tests a fuel-control unit for a new Airbus jetliner that will be the largest passenger aircraft in the world. The Tempe aerospace company also made valves used in the X-43A aircraft, below in a NASA photo, which set a world speed record of Mach 7 in a March 27 test flight.

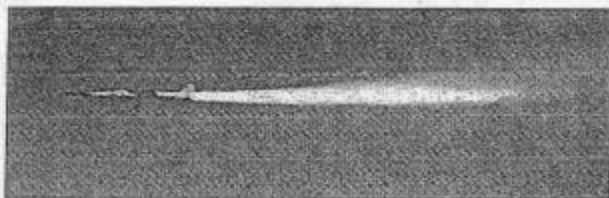
By ED TAYLOR
TRIBUNE

A 14-year-old Tempe aerospace company has found a lucrative niche for itself making high-tech controls for engine fuel systems.

While that may seem unremarkable, there's plenty of excitement these days at Jansen's Aircraft Systems Controls, 2245 W. University Drive.

That's because Jansen valves were used in the X-43A aircraft that set a world speed record by flying at Mach 7, or about 5,000

Fastest fuel in the West



Tempe tech firm was aboard for recent record-speed flight

miles per hour, for seven seconds in a NASA test flight on March 27.

To John Calleja, a senior engineer for Jansen, that feat was akin to the Wright Brothers' flight at Kitty Hawk or the first rocket launch from Cape Canaveral.

"It's a milestone in aeronautics history," he said.

The Jansen valves were crucial to the operation of the scramjet engine. One of the valves released silane, a gas that burns in the presence of oxygen, into the

FUEL: Tempe firm aims sky-high

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scramjet's combustion chamber to start the engine.

Another Jansen valve had to precisely meter hydrogen fuel into the engine to sustain the combustion.

And it had to operate while the outside air, which provided the oxygen source, was passing through the engine at supersonic speed.

"To put this in perspective, it's like lighting a match and keeping it lit in a hurricane," said Steve Jansen, sales and marketing representative for the company.

The flight was not the end of Jansen's research and development work. Another X-43A equipped with Jansen valves will attempt to reach a speed of Mach 10, maybe by the end of this year. And Jansen has developed a valve system for the U.S. Air Force that it hopes will help to power a hypersonic air-breathing cruise missile later in this decade.

The technologies developed for these super-fast aircraft could also be used someday to propel passenger airliners halfway around the world in just a few hours.

In addition to thinking fast, Jansen is developing cutting-edge fuel systems for micro unpowered aerial vehicles that weigh about 5 pounds, measure about 9 inches in diameter and can fit inside a soldier's backpack.

Those aircraft are designed to carry small cameras and perform reconnaissance missions.

President and co-founder Harvey Jansen, 66, has been at the cutting edge of aircraft fueling systems for a long time. He began his engineering career with the Pratt and Whitney division of United Technologies in the early 1960s in West Palm Beach, Fla.

At the dawn of the Space Age he worked on the RL-10 rocket engine, the first to be



"I had done work on rockets and the SR-71 in the 1960s, and the physics of the operation hadn't changed. In 40 years I came full circle."

HARVEY JANSEN
PRESIDENT AND, JANSEN'S
AIRCRAFT SYSTEMS CONTROLS

fueled by liquid hydrogen and liquid oxygen, and the SR-71 Blackbird, a supersonic spy plane developed by the Lockheed "Skunk Works."

In 1966 he came to the Valley to work on turbine aircraft engines for AiResearch, now Honeywell International. In 1979 he co-founded and worked as chief engineer for Phoenix Controls, a company that specialized in aircraft hydraulic systems. That business failed in 1990, and its assets were sold to TactAir Fluid Systems of Liverpool, N.Y.

Having reached the age of 53 and not satisfied with his

career accomplishments, Jansen decided to form his own company to make fluid controls for aircraft, spacecraft and industrial engines. Learning from mistakes at Phoenix Controls, he took a bigger role in the management of his new company.

"I had the choice of working for somebody else or starting over again on my own," he said. "I had a supportive family, but there was considerable risk involved."

Starting the business in the garage at his east Mesa home with his son, Craig, Jansen used his connections in the aviation industry to win business. In the first year the company earned about \$250,000

in revenue and broke even. It was profitable the second year and has been ever since.

Today the company receives about \$6 million per year in revenue and has 23 employees.

Jansen's first customer, Hamilton Sundstrand in San Diego, has turned out to be a steady source of business.

Jansen controls go into auxiliary power units that Hamilton Sundstrand makes for Airbus airliners.

Today Jansen still makes APU valves and actuators for the A319, A320 and A321, he said. Also, the company is designing controls for the A380, an Airbus jetliner that will be the largest passenger aircraft in the world.

The company won the X-43A job thanks to Jansen's early work at Pratt and Whitney — a Pratt colleague recommended Jansen to ATK, the prime contractor for the X-43A engine.

"I had done work on rockets and the SR-71 in the 1960s, and the physics of the operation hadn't changed," he said. "In 40 years I came full circle."

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