

Lockheed Is Flying Pigeons

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Lockheed Missile & Space Co.: Home of the Poseidon, the Trident, the Polaris — and the carrier pigeon.

"They are not machines. You have to treat them gently, and each one has his own quirks," research scientist Warner Deeg said yesterday as he proudly petted a member of Lockheed's own feathered courier service.

Deeg became the birdman of Lockheed about eight months ago, after he persuaded managers of the aerospace giant to use pigeons to move microfilm from its main plant

work promptly translated into blueprints the following morning, and that's where the pigeons come in. Each carries a tiny vial, which holds a square of film that weighs about a tenth of an ounce, south from Sunnyvale to the mountain lab where it is developed into a blueprint. The birds travel by car to Sunnyvale in the afternoon, then wing back to their home in the mountains about 6:30 the next morning so the blueprints can be ready early each day.

When carrier pigeons were first proposed, management was skeptical, to say the least. "They thought, 'what the heck is a big company like Lockheed doing even considering pigeons,'" Deeg says. But they're not laughing now; they've saved several thousand dollars already.

After weeks of training the birds by letting them fly home from varying distances, Deeg eventually got them to the point where they can make the full trip in half an hour, versus the 90 minutes it would take a human.

"The driving force is the food and water and security of the loft," says Deeg, who now has 19 birds, including several newborn chicks. "They want to be home."

At first, he feared setting the birds loose in bad weather. However, Deeg said experience has shown that the creatures do well as long as the home loft is sitting in clear weather. The pigeons seem undaunted by fog or light rain between destinations.

"We have never lost a bird or a message," Deeg boasts. However, two of the birds nearly met with tragedy when the killer storm last January hit almost without warning. "Pigeons fly about 35 mph and the wind was 45 mph in their faces," he recalled. But both birds made it home: one struggled in after three hours, and the other apparently sat out the storm for

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in Sunnyvale to an isolated research facility near Felton in the Santa Cruz Mountains. The two points are about 50 miles apart by road, but only 21 miles apart as the pigeon flies.

Drivers making the trip are often bogged down in heavy traffic, and the redwood-lined roads that wind up to the mountaintop can be slow and even treacherous. Hiring human messengers costs \$50 per trip.

So design engineer Robert Nelson got the idea of bringing back pigeon power — which dates back to ancient Egypt — and Deeg put it into action. Nelson designs missile parts on a computer terminal at the site in the Santa Cruz mountains, communicating by microwave with the main computer in Sunnyvale.

The Nelson needs each day's



By Peter Breinig

Lockheed research scientist Warner Deeg removed a capsule containing microfilm from a carrier pigeon's leg

three days, then came in.

No one is quite certain what gives pigeons their amazing homing instinct, but some scientists have found tiny magnetic sensors in nerve endings in the birds' heads. The position of the sun also figures in their reckoning as they fly home.

Deeg says he has had calls from "a few" businesses interested in emulating Lockheed's interoffice mail service. One was from a photographer who shoots pictures of

river-rafting expeditions and needs a quick way to get film out of the wilderness.

That idea caught Deeg's fancy. He displayed a tiny snap-on chamois backpack he made to enable a pigeon to transport a full roll of 35mm film that would weigh too much if carried on its leg.

"I want the birds to be real comfortable. I even went out and bought a sewing machine so I could get this thing just right."