

Phantom rider

By Chris Haddox and photos by Bob Ferguson and NASA

Pioneers once headed west from St. Louis on journeys of discovery and exploration. So it was fitting that the city was the starting place in December for another westward journey to explore new frontiers—in aerospace.

This 1,800-mile (2,900-kilometer) trip was made on the back of a modified 747.

The NASA-owned jumbo jet was giving a lift to an unmanned, futuristic-looking Boeing craft known as Phantom Ray to the Dryden Flight Research Center at Edwards Air Force Base in California for flight testing.

Phantom Ray couldn't make the flight on its own, because the Federal Aviation Administration won't permit unmanned airborne systems to fly in controlled airspace. The arrangement with NASA allowed Boeing to transport the aircraft fully assembled on one of the two NASA Shuttle Carrier Aircraft (SCA) instead of shipping it cross-country and then reassembling it at Edwards, keeping Phantom Ray on schedule for its first flight.

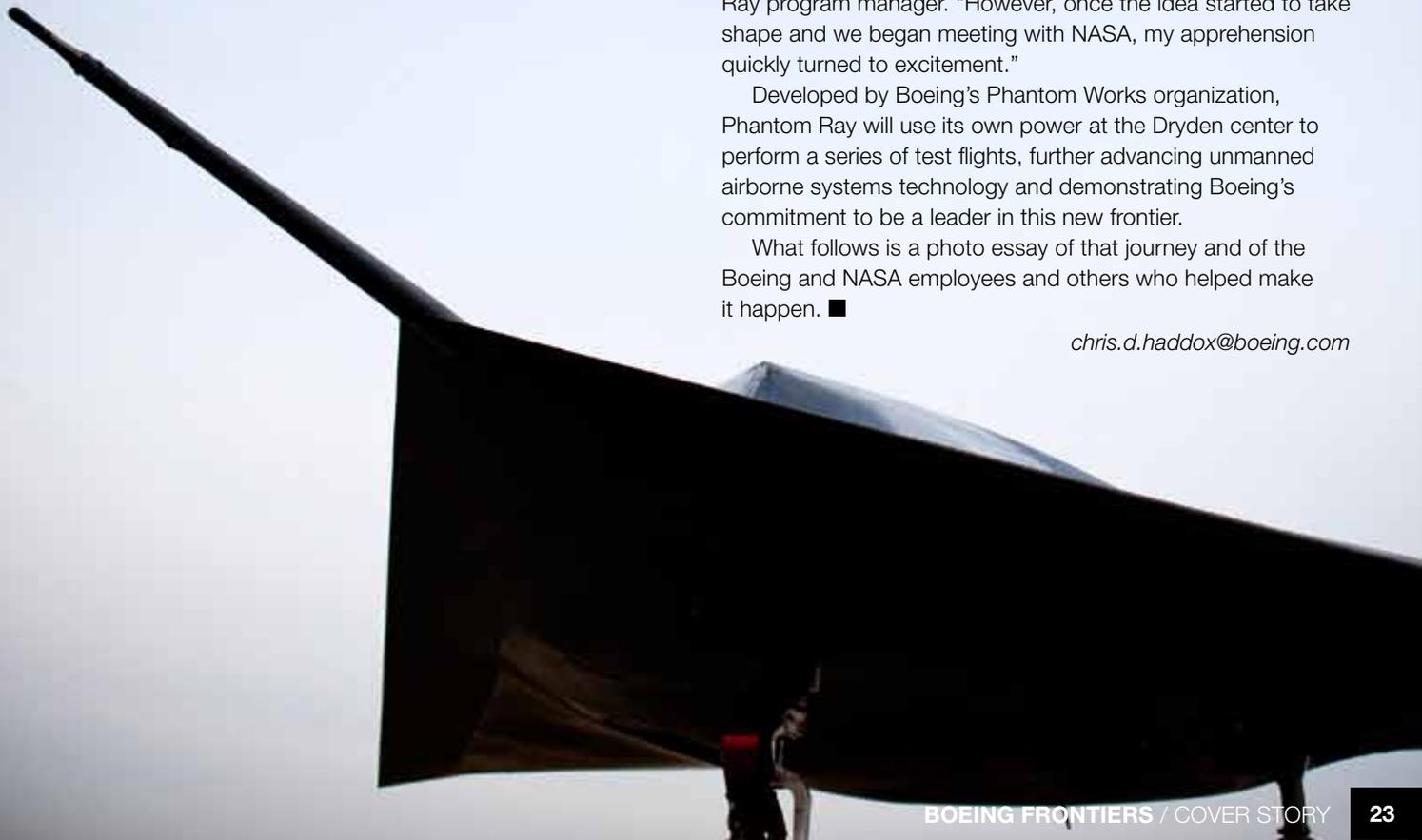
The modified 747 has been used for 30 years to transport space shuttles, but this was the first time it carried an aircraft other than a shuttle.

"I have to admit that when the idea of using the SCA to transport Phantom Ray was first proposed, there was some level of apprehension on my part," said Craig Brown, Phantom Ray program manager. "However, once the idea started to take shape and we began meeting with NASA, my apprehension quickly turned to excitement."

Developed by Boeing's Phantom Works organization, Phantom Ray will use its own power at the Dryden center to perform a series of test flights, further advancing unmanned airborne systems technology and demonstrating Boeing's commitment to be a leader in this new frontier.

What follows is a photo essay of that journey and of the Boeing and NASA employees and others who helped make it happen. ■

chris.d.haddox@boeing.com



PHOTOS: (Below) In St. Louis on Dec. 11, Boeing and NASA employees position Phantom Ray before it is lifted onto the back of the 747. The 11,000-pound (4,990-kilogram) adapter to hold the Phantom Ray for the flight was designed by Boeing Phantom Works engineer Randy DeVore. "The flight was a year in the making, and designing the adapter and having it built was stressful and exciting, so it was one of those peak memorable life events, comparable to becoming a father," said DeVore, the father of two.

(Inset close-ups, from left) Boeing's Tom McMullen unlatches Phantom Ray from its flatbed truck transporter; holding one of the lines while Phantom Ray is positioned on the 747 are Rick Shutt, Boeing system safety engineer, Rick Brewer, NASA team lead for 747 maintenance, and Bill Cole, Boeing flight mechanic electrician; Don Harris, Boeing flight mechanic, listens for instructions during loading.



PHOTO: During the flight from St. Louis on Dec. 14, the NASA 747 carrying Phantom Ray passed over Arkansas, Oklahoma, Texas, New Mexico and Arizona before landing at Edwards Air Force Base in California. NASA





PHOTOS: (Below) Boeing and NASA engineers inspect Phantom Ray after it is unloaded from the 747 at Edwards Air Force Base, Calif. The unmanned air vehicle's landing gear was removed before the flight to allow the special mounting adapter to be attached. "It was a six-hour flight that saved two to three months of work," compared with disassembling and shipping by land, said Craig Brown, Phantom Ray program manager. "It wasn't easy, but it was worth it."

(Inset close-ups, from left) Cory Saathoff, NASA mechanic, and Boeing's Dennis Maddock keep a close eye on Phantom Ray as it's unloaded at Edwards; Boeing flight mechanics Don Harris and Bob Tepe get a big smile from Teri Finchamp, center, Phantom Ray manufacturing lead, for a job well done.

