



CAN YOU FIX IT?

NADEP NORTH ISLAND TACKLES HORNET NOSE JOB

By Cdr. John Mawhinney

The Naval Air Depot (NADEP) North Island, Calif., recently bid farewell to RX-46, a special rework aircraft that had been with the facility for a very long time. Its memory will continue to be a source of pride and satisfaction for the unparalleled perseverance, professionalism, experience, knowledge, and craftsmanship of the North Island team.

In 1999, the exhaust from another aircraft pushed an F/A-18C Hornet across a carrier flight deck and into an F-14 Tomcat, displacing the Hornet's nose about five inches to the left. When Commander Naval Air Force, U.S. Pacific Fleet (AIRPAC) asked the depot if the aircraft could be fixed, the initial response was negative.

At first glance, the damage didn't appear to be that bad, but the depot's engineers and evaluators knew better. To displace the nose by five inches meant that there was significant underlying damage, and much of the forward fuselage would have to be replaced. But AIRPAC really wanted that aircraft back, so the Hornet was delivered in pieces to NADEP North Island, where

it entered the pipeline and received its special rework designation of RX-46.

With no spare F/A-18 forward fuselages available, the depot's F/A-18 program was forced to rebuild the damaged fuselage with parts manufactured locally at North Island. Teardown was required to identify and ultimately replace the myriad of damaged parts. The scope of the final assembly phase alone was enormous, but Michael Bennett, the assembly crew leader, did an outstanding job of coordinating the diverse and unique assembly requirements for this aircraft on a daily basis.

Personally, I didn't believe that I would be around to see RX-46 fly. Not only was I proven wrong, but ironically it turned out that I was the first one to fly it. The obvious question for me to ask Derrick Pettit, a fleet support team engineer, was, "How do I know it's straight?" A laser alignment tool confirmed that RX-46 was true to within 0.007 inches of perfectly straight, which compares well with undamaged fleet aircraft that can measure out to 0.250 inches. Still not convinced, I was expecting that the aircraft, if it got airborne at all, would not fly straight. It's

just like a repaired car fresh from a collision shop; for some unknown reason it won't drive the same as it did before. Once again I was proven wrong in that it was the straightest aircraft I have ever flown. RX-46 flew straight as an arrow from 80 knots out through Mach 1.6, and its overall performance was phenomenal.

As a local rule at NADEP North Island, all center barrel and special rework aircraft require a minimum of three flights to verify proper operation, and it usually takes that many flights or more to work out all the bugs. But with RX-46, the first flight after seven years was nearly flawless. Everything worked as it should, including mission systems such as the air-to-air radar. The performance was so good that one of our test pilots, LCdr. John Fernandez, reported that RX-46 can super-cruise, meaning it can travel at supersonic airspeeds without the use of afterburner. This level

of performance is not often seen in older aircraft, and it is a testament to the quality of repair that the depot's F/A-18 program team was able to achieve.

On 17 March Marine All-Weather Fighter Attack Squadron 332, MCAS Beaufort, S.C., received the former RX-46, which now performs better than new and will require very little grooming to get up to full mission capable status. After seven years of rework, approximately 3,700 engineering hours and 27,000 labor hours, and \$2.8 million in material, the fleet got back a full-up warfighting asset at a bargain price. In the process, the NADEP North Island F/A-18 program learned a lot about repairing this kind of extensive damage—just in time to start work on the next damaged F/A-18D to enter the rework pipeline. ✈

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Facing page, a damaged F/A-18D is the latest challenge facing the aircraft rework team at Naval Air Depot North Island, Calif. This comes after restoration of an F/A-18C, right, that required replacing much of the nose that was knocked five inches out of alignment following a flight deck collision. The repaired Hornet, below, flew straight as an arrow during test flights and was recently returned to the fleet.

