



Joint STARS engineers work sensor integration project

By Patty Welsh
66th Air Base Wing Public Affairs

Members of an Electronic Systems Center team at Hanscom Air Force Base, Mass. are using an aircraft identified for parts reclamation, or reuse, to reduce cost, save time and minimize risk during a process to integrate a sensor system on an E-8C Joint Surveillance Target Attack Radar System, or Joint STARS, aircraft.

In 2008, the Joint STARS program office at ESC received congressional funding to conduct a demonstration of integrating the Senior Year Electro-optical Reconnaissance System on a Joint STARS aircraft. The SYERS-3 sensor provides electro-optical and infrared images which will provide aircrews with combat identification and reduce fratricide.

The SYERS-3 Integrated Product Team identified several risk areas associated with integrating this third generation U2 reconnaissance aircraft camera onto a Joint STARS aircraft and contracted with specialists at Northrop Grumman Corp. to perform a SYERS-3 feasibility study. During that initial study, engineers determined the best location to mount the SYERS-3 sensor would be below the floorboards of an aircraft, in an area known as the keel beam.

“As gaining access to the keel beam area is very difficult, NGC (engineers) originally planned to utilize modeling for the work, which would have been both expensive and time-consuming,” said Capt. David Wright, SYERS-3 program manager.

After some discussions, experts with both NGC and the 751st Electronic Systems Group decided to try to obtain an actual keel beam.

Mark Lawrence, 633rd Electronic Systems Squadron program manager, contacted officials at the 309th Aerospace Maintenance and Regeneration Group at Davis-Monthan Air Force Base, Ariz., to see if one was available.

Capt. Wright said, “I’ve had a lot of past success working with AMARG supporting C-5s and C-130s.”

The 309th AMARG provides aerospace depot maintenance, aircraft regeneration, storage and preservation, aircraft parts reclamation and disposal in support of the Department of Defense, allied warfighters and other government agencies including NASA.

People from ESC and AMARG began working together on the SYERS project in November 2008. They were able to identify a 707 aircraft, identical to operational jets in the Joint STARS fleet, which was available for parts reclamation.

“The individuals from ESC had a pretty good idea of what they were looking for, but not every aircraft would be ready for that type of work,” said

Eric Paulley, a maintenance specialist at AMARG. “Many had the landing gears gone or were up on modules. Not only do we want to make sure it’s what the customer needs, but we need to make certain the work can be done safely.”

The lower center fuselage keel beam area was cut out of the aircraft and shipped to the Northrop Grumman facility in Melbourne, Fla.

“This was not a trivial task,” Captain Wright said. “The keel beam is more than 20 feet long and weighs 2,700 pounds.”

Northrop Grumman engineers used the AMARG-provided keel beam for load and stress evaluation, to determine component installation location,

and prototype structural reinforcement designs.

“The Joint STARS team has worked with AMARG since initial production and they have always provided us outstanding support,” Mr. Lawrence said. “They have been key in keeping the SYERS-3 demonstration on track. Using AMARG is an excellent risk reduction tool.”

“Having the keel beam on-site helped us work through our air worthiness certification approval process,”

said Captain Wright. “It directly contributed to the accomplishment of the SYERS program. We would not have been able to get as far as we have, with the certainty we have, without it.”

The partnership continues as the Joint STARS team asked AMARG officials to brief their organization’s mission and recent successes at the 2010 707 User’s Group this coming April in Orlando, Fla.

“I was extremely impressed with the professionalism and skill displayed by AMARG,” said Patrick Dagle, the director of the 751st ELSG. “Their willingness to partner with the Joint STARS program lowered our cost, shortened our schedule and decreased our risk for installing this critical combat identification capability. I look forward to working with them in the future.”



309 AMARG professionals responsible for coordinating the removal and shipment of this 707's keel beam to Northrop Grumman in Melbourne, Fla. From left, Manny Vasquez, Eric Paulley, Greg Vestecka, Matt Rinaldi, Fred Vega, Timothy Moore, Kenny Armstrong, William Jackson, and Tony Masters. Not shown, Van Smith, Joe Anaya, Dan Garcia, Miguel Marte and Bryon Volzgen.

January 4, 2010--a busy day at AMARG, but never business as usual

From left, aircraft worker, Mr. Dan Brown, 576th Aerospace Maintenance and Regeneration Squadron (576 AMRS), performs C-130 programmed depot maintenance removing and

replacing throttle cables; Mr. Chris Foster, a 309th Support Squadron information technology technician, performs a system upgrade on a laptop computer; Mr. Brandon Pflieger, 577th

Commodities Reclamation Squadron, removes parts from a Navy SH-60 "Seahawk"; and Mr. Brian Thompson breaks down a Marine CH-46 helicopter swash plate.



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From left, Ms. Sue Nesper and Ms. “Kat” Shank, 578th Storage and Disposal Squadron (578 SDS), reseal an F-15; Ms. Mary Williams, a hydraulic mechanic for the 576 AMRS, rebuilds an F-4 in-

board spoiler actuator; Mr. David Sepulveda and Mr. Ted Engebretson (back), aircraft mechanics also assigned to 576 AMRS, rig an A-10’s flight controls; and Mr. Manny Guaman, an aircraft

worker for 578 SDS’s Demilitarization Flight, performs demil in the landing gear wheel well of a C-130 in preparation for disposal.



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