AN INTERIM UAV SOLUTION FOR AMERICAN AIRCRAFT CARRIERS

A year old article but still an interesting concept....and some excellent photos at the below link.

NEED AN INTERIM UAV SOLUTION FOR AMERICAN AIRCRAFT CARRIERS? TAKE A GOOD HARD LOOK AT THE MOTHBALLED S-3 VIKING...

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There has been some buzz in the defense community that the US Navy should field an “interim” unmanned aircraft to deploy off of its flattops between the time that the X-47B proves critical operational technology and a production class UCAS-N is procured in the form of either the General Atomics Sea Avenger, Lockheed Sea Ghost, Boeing Phantom Ray, or Northrop Grumman’s X-47B based UCAV. This does make some sense as the Navy has basically attempted a warp speed leap in capability when it comes to armed drones operating off of its carriers, going from literally no unmanned weapons systems at all, to the world’s most advanced unmanned aerial combat vehicle in one giant step. The problem with this concept is that existing armed “multi-role” UAV designs, such as the MQ-9 Reaper, are not really designed for carrier use and their ability to takeoff via catapult and land via arresting wires, all within the flow of fast and heavy fixed wing carrier aircraft traffic, is problematic if not impossible. A helicopter system based on the MQ-8 Firescout is an option but it is a helicopter, with limited speed, range and weapons carriage capability when compared to a fixed wing platform. Additionally such a system does not take advantage of America’s “cat and trap” monster nuclear aircraft carriers unique capabilities and could be as easily deployed on cruisers, amphibious assault ships, and destroyers. In other words, when it comes to carriers, an unmanned helicopter solution does not “advance the ball” for fixed wing carrier aviation in any substantial way. Then there is the budget, which has very little, if any room for an “interim” clean sheet design UAV system to be developed or fielded from scratch. If you cannot adapt something already on hand or in service than the Navy might as well wait for the UCAS-N to become a reality.

I predict that the US Navy is going to get a very rich taste of the true potential of a carrier deployed fixed wing drone via the rising UCAS-D program (X-47B). Once this happens NAVAIR will have to wait possibly a decade or more to see that taste turn into a feast via fielding an actual unmanned system in relevant numbers, featuring long range, survivability, adaptability and striking power. It seems like one of three things will have to happen with this in mind:

1.) NAVAIR finishes with the X-47B and waits years and years to realize such a promising capability, meanwhile pouring billions into somewhat irrelevant F-35C production.

2.) NAVAIR finishes with the X-47B and decides to find the money, possibly at the F-35C’s chagrin, to rapidly speed up the UCAS-N timetable, thus lessening the gap between technology demonstration and operational capability.

3.) NAVAIR finishes with the X-47B and decides to procure a relatively low cost “interim” drone capability so that the lessons learned via the X-47B can be immediately exploited and further refined. This capability would allow NAVAIR to stick to its blurry UCAS-N timeline for fielding a state of the art unmanned stealth weapons and sensor platform.

I think I have a potential answer to the Navy’s capability and testing gap in the form of a very flexible, yet defunct, sea control aircraft that just so happens to be tanning by the dozens in the warm Arizona sun. The S-3B Viking was retired ahead of its time. That jet had range, expandability, a large crew and was a known commodity that should have been kept in service and adapted to the incredible advancements of the ever maturing digital age. Instead she was removed from systems due to budgetary issues, a false sense of security when it comes to maritime threats to the Carrier Strike Group, and “planned obsolescence.” With this in mind, I believe that S-3 really has the perfect set of characteristics to be fielded as “bridge platform” between carrier based armed UAVs and full on stealth UCAVs.

The Navy should take the lessons learned by the X-47B, and all the associated parallel programs that will facilitate unmanned aircraft operating from aircraft carriers, including autonomous aerial refueling, taxiing, launch and recovery systems etc, and retrofit them into the already owned, and frankly, expendable S-3 Vikings. The aircraft have so much room for installation of hardware for this mission with its roomy four place cockpit, and it even sports a weapons bay that could make fantastic use of the emerging networked Small Diameter Bomb and other miniaturized munitions. Additionally, the S-3 is a fantastic sensor platform to extend the “look” of America’s Carrier Strike Groups. Fitting the aircraft with an up to date radar system, FLIR turret and network connectivity gear, such as a miniaturized version of the Battlefield Airborne Connectivity Node (BACN), would allow the fleet to have MQ-9 type attack capability, long duration surveillance capability, and the ability to haul a myriad of sensors and force enablers, some of which may make their way to the UCAS-N once the Navy is ready to field it, in an airframe that has proven itself at sea for decades. Let’s not forget that the S-3 is a sea control platform by origin, so why can’t it continue to do a piece of that now deserved mission in an unmanned manner?

By fielding an unmanned modification of the S-3 Viking in the short term, the Navy, from the top brass, all the way down to the “colored shirts” on the carrier deck, will develop an invaluable operational knowledge of how to actually operate decent quantities of unmanned aircraft off of a historically very “manned” aircraft carrier, and they will do so in a cost effective and low risk manner. Ditching into the sea an already surplus airframe that has been converted to an unmanned system due to a software issues or a data link failure is a lot less painful than putting America’s latest and greatest stealth drone technology in the drink in the process of “learning” this how to operate these machines in a very demanding environment. In some ways the S-3 provides an aircraft that we can afford to lose in the quest for revolutionizing the way we fight our aerial wars. In the meantime these machines can actually conduct valuable missions that the fleet would be happy to benefit from.

So the big question here is can they convert the S-3 to a drone? Why the hell not? It has plenty of room and lifting capacity to install a similar flight control interface as a X-47B, potentially with a “man in the loop” option for when the aircraft is not launching, recovering or performing benign strategic surveillance and network enabler duties. Such a capability would allow the S-3 to be one hell of a littoral combat weapon, packing Hellfires, Mavericks, and a myriad of new micro-munitions into the fight against potential swarming fast boats and mine laying ships.

I think it is time that we demand that the DoD come forward with their once budding “optionally manned” concept, although I do not believe a converted drone S-3 has to be optionally manned, but the conversion technology is what is of interest. We have hundreds of usable aircraft sitting idle in the Arizona Desert, why not come up with some various levels of unmanned retrofits for these machines for potential future use and applications? The reality is that I am certain this has been already done both in the black and gray world (O series full scale aerial targets are not of the capability I am discussing here), but for some reason the concept has not been chased further or showcased to the public. I think it is absurd to think that such conversions can not only be done, but that they can be very cost effective indeed. No better place does this make sense than when there is a demand for a cost effective heavy unmanned aircraft that has to operate off of a carrier. Since none exist at this time that are not cutting edge autonomous stealth drones, let’s grab an airframe that is rock solid, carrier proven, reasonably efficient and totally available to make it happen!
In the end the S-3 was ahead of its time, an aircraft that could really shine in this day and age where speed is not that much of a factor for the majority of missions we find ourselves in, although range, loitering capability, and room for technological expansion surely is. The truth is that an S-3 with an up to date targeting pod/turret (not the F-14s old LANTIRN pods), enhanced connectivity and new munitions, would have been a more effective and much less expensive close air support platform than F-16s and F/A-18s over Afghanistan and Iraq! I actually had a long debate with an F-16 pilot about this, he laughed when it began, and when it was over he agreed. Let’s rip the cockpits out of these tough jets and install the flight control systems and pilot interface architecture from the X-47B, mix in a little man in the loop Predator-esque interface (semi autonomous as well as man in the loop control) and we will have one hell of a sensor and bomb truck to pave the way to the Navy’s unmanned future.

It is time the DoD stops retiring everything it once “could not live without” to pay for its pipe-dream all 5th generation fighter initiative and begin looking through the machines it already owns to creatively bring new capabilities to the table. Let’s take our Generals and Admirals off the 100% capability at any cost diet and challenge them to do more with what they already have. I believe that a very unglamorous, proven, and massively adaptable unmanned “QS-3 Viking is the perfect platform to lower the Navy’s UCAV technological risk while also proving that more can be done not just with less, but with the proven “antiquated” weapons systems that we already own in droves, free and clear…

*The killer photos in this post are via the hard working Navy photogs that keep us up to speed of the wondrous sights that occur everyday around the globe aboard US Navy ships, aircraft and bases!