After multiple reports of drogue basket anomalies and difficulty during aerial refueling operations, a lone maintainer in one of the squadrons took it upon himself to attempt to determine what may have happened. Numerous pilots in the squadron had reported incidents in which the aerial refueling store (ARS) baskets did not seem to be opening correctly. This one motivated Sailor personally made the rounds on the carrier and visually inspected all twelve of the ARS paradrogue basket assemblies onboard the ship, including those belonging to another squadron. He discovered that one of the baskets was configured differently than all the others. Upon further investigation, it turned out that single basket was the ONLY one onboard the entire ship that was configured correctly!

As a result of this one Sailor’s initiative, the air wing was able to repair all the ARS pods to proper operation and prevent future mishaps. Furthermore, his discoveries opened the door to further investigation, possibly identifying ARS problems across the fleet and also enabling proposed corrections to shortfalls in the relevant maintenance procedures.

The involved carrier air wing has released a HAZREP listing the causes and recommendations, and CNAF/NAVAIR may direct inspections of ARS pods across the fleet. The lesson learned is not intended to supersede any communications from the aviation maintenance team, but to aid in spreading the word of the hazard. This lesson is also intended to emphasize that ONE PERSON CAN MAKE A DIFFERENCE! In our large, complex Navy and Marine Corps organization, it often can seem impossible for us to individually influence changes or improvements. This case is an example that YOU (and I) can directly — and individually — influence and change things across the force!

Getting back to the specifics of this particular event, here are a handful of key items to know:
- All the air wing’s baskets had Technical Directive (TD) AYC-1758 installed at the same Fleet Readiness Center in AUG-SEP 2017. The TD clearly describes the proper installation of the paradrogue assembly.
- Although the TD is clear, the O-level “daily deck” and pubs do NOT provide adequate written procedures or drawings to ensure a squadron can verify the canopy is properly installed.
- The Sailor’s squadron has submitted a CAT 1 Technical Publication Deficiency Report (TPDR) to correct the basket installation procedures in NAVAIR 03-10JA-34.1.
- All basket configurations in the CVW have been corrected. HAZREP released.
Here are pictures of incorrect and correct ARS paradrogue assemblies. When comparing the difference, note the outer cords of the basket. The static line of the canopy was installed inside out.

To explain it simply, the outer ring of the basket has two cords that hold the reflective white material in place and give the basket its normal circular shape. The “outer” circumference cord is larger, and the “inner” circumference cord is smaller. The incorrect TD incorporation had the cords reversed, with the smaller, "inner" circumference cord actually installed on the outside edge. This reverse installation prevented the basket from opening fully airborne and created a smaller opening for the refueling probe which sometimes resembling a non-circular “D” or “C” shape inflight. Additionally, since the larger, "outer" circumference cord was installed inside of where it should have been, that cord had quite a bit of visible slack in it for the refueling probe to catch on. On the ground, while the basket is collapsed, it is difficult to see the mistake.
Lessons Learned

1. One person can make a difference!

2. Report, report, report. The non-standard performance of the baskets as seen by the aircrew was an indicator of an unknown problem with ARS configuration. Without the knowledge of that evidence, our unnamed hero would have been unaware of a possible larger problem beyond the single mishap event.

3. Use the pubs with a critical eye. Whether you’re at the O-level, I-level, or D-level, seek clarification if you encounter a maintenance action that seems to lack adequate detail. Submit a TPDR to fix what you find.

Recommendations

1. Brief this lesson (and the HAZREP) to all Navy, Marine Corps, Air Force, and Army squadrons that both provide and receive* aerial refueling with ARS pods (CO/XOs, maintenance personnel, and aircrew). *Squadrons that receive fuel must also be aware of the hazard! Helos tank too!

2. Brief this lesson (and HAZREP) to all activities that conduct maintenance on ARS pods.

3. All squadrons and maintenance activities with ARS pods – inspect the pods to ensure they are in proper compliance with the TD and governing assembly instructions.