

## WHEN OLD SCHOOL IS COOL: STRIVING FOR ACCURATE AND EFFICIENT SAFE SEPARATION TESTING IN THE F/A-18 --by LCDR Joshua Filbey, USN (M)

Sometimes newer and fancier is not always better. In the age of ultra modern airplanes, aircraft are making it easier for a pilot to shoot down an enemy or accurately bomb a specific ground target. The days of rolling in and just “winging it” are over. Now the aircraft can take winds along with flight conditions into account and precisely predict where the weapon is going. But what about those cases where the “target” is actually specific release parameters as opposed to a specific spot on the ground? In initial weapon integration testing, the location the bomb hits on the ground is not nearly as important as whether or not the store safely separates from the aircraft. Pilots are instead tasked with hitting specific release conditions, which more often than not occur in high risk areas such as against aircraft limits or places where predictions have shown some questionable store characteristics. In these cases, it becomes extremely important for the pilot to be precisely on the targeted conditions. The details are important in the final clearance decision of the store and if a bomb is separated at the wrong conditions, it might take up to a year to get a replacement- resulting in added cost and unacceptable program delay. These tight tolerances lead to a task that can become extremely difficult even in a perfect world scenario and more often than not require multiple attempts. Throw in a modern aircraft that is designed to hit a specific target, and it becomes infinitely harder to achieve success on the first try. In some cases, the symbology shown to the pilot can be misleading and actually hinder the pilot from achieving the desired release parameters; not because the aircraft is in error, but rather because it is “helping” the pilot hit the target. So what is the answer in today’s fiscally tight environment? Do we just start accepting data that is “close enough,” or do we discover new ways to attempt to guarantee success on the first pass and help the pilot overcome the “assistance” of the aircraft? This paper looks at the recent approach taken during safe separation testing in the F/A-18 and the new techniques and lessons learned in improving overall efficiency while balancing risk. Sometimes all the new technology becomes a hindrance in effective and efficient testing, and it is actually beneficial to dumb down the aircraft and fly more “old school.”