An Incident with Lessons for All of Us

By Rich Hanson, AMA Government and Regulatory Affairs Representative

On Saturday August 14 there was an unfortunate mishap involving a full-scale, home-built biplane and a 43% radio controlled model aircraft. There was a number of accounts of this incident on YouTube and several of Internet forums. Much of the information was largely speculative and to some extent inaccurate. AMA does not routinely investigate model aircraft mishaps, but this was a very unusual incident with implications that could significantly affect the hobby. Within days, as AMA's government and regulatory Affairs representative, I was on-site to gather the facts and to interview the participants. As they say, the following is the rest of the story…

Incident background

This incident occurred at a small private airport in the Denver, Colorado, area. The airfield is designed as a residence airpark and is owned and operated by a homeowners association (HOA). On the date of the incident the association hosted a by-invitation-only full-scale fly-in as a fundraiser for a local children's hospital, and the local model aircraft club was invited to participate by exhibiting its members' aircraft and putting on a midday RC flight demonstration. Coincidentally, the local AMA club had a community event of its own scheduled for the same day, and it was decided to send a portion of the club members to the HOA event while leaving the remaining members to participate in the club's "Kids Fly Free Day" at the local flying site.

The president of the HOA is an inactive modeler and past member of AMA and served as the event director and air boss for the flight demonstrations. During the course of the event it was decided to allow concurrent full-scale and model aircraft operations. At least one of the modelers present cautioned against allowing concurrent ops; nevertheless, the air boss elected to proceed by communicating with the full-scale aircraft through the use of a handheld transceiver while standing at the runway's edge, to verbally communicate with the RC pilots during the flight demonstrations.

The RC aircraft involved was a 43% AJ Slick powered by a Fox 200cc gas engine. The RC pilot was asked to provide a 3-D flight demonstration, and on this occasion the flight demo was performed without a dedicated spotter; the air boss was relied on to provide separation from any full-scale aircraft in the area.

3D Hobbies' 126-inch AJ Slick w/Fox 200cc Gas Engine

The full-scale aircraft was a home-built Acroduster Too SA750 biplane based at the airpark. It had been flown to another event earlier in the day and was returning to base at the time of the incident.


Acroduster Too SA750 – N28KT (Lycoming IO-540)

What happened that day
At approximately 11:00a.m., the SA750 arrived at the airpark and made a low pass down the runway. The RC pilot was performing a demonstration flight at the time and was directed to move his model away from the runway as the biplane made its low pass. The biplane then flew around the traffic pattern and was presumably setting up for a landing. The RC pilot brought his aircraft back to the runway and continued his 3-D (hover) demonstration. As the biplane came around, the pilot apparently aborted his approach and decided to make a second smoke-on, low pass down the runway.

Not realizing the biplane's intention, the air boss was unable to warn the RC pilot until moments before impact. The RC pilot hovered his model farther down the runway and increased his altitude to approximately 30-50 feet. At the last moment the biplane pilot attempted to turn right but was unable to avoid the model airplane. The biplane struck the model with its left lower wing, causing damage to the wing's leading edge. The RC aircraft was severed between the cockpit and the empennage, fell to the ground, and was completely destroyed. The biplane pilot was able to recover his aircraft and return for a landing without injury or further damage. The RC pilot later stated that he did not hear the air boss and was unaware that the biplane was making a second pass.

Investigation
In reviewing the incident, a number of questions arise regarding the actions and decisions of the full-scale pilot; nonetheless, these are probably best addressed and resolved by the Federal Aviation Administration. However, in terms of the RC activity there are number of lessons to be learned and a few takeaway items that can be applied to improving the safety of future aeromodeling operations.

The single largest contributing factor in this mishap was the decision to allow concurrent full-scale and RC operations. There are few, if any, benefits in allowing concurrent ops, because the risks can be substantial. That's not to say you can't have both full-scale and RC airplanes participating in the same event. However, the flight operations should be separated into blocks of time for the RC activity and for the full-scale activity. There should also be clear coordination and positive communication with the air boss/event director at all times.

The decision to perform the RC flight demonstration without a dedicated spotter also played a significant role in this mishap. General Item #2 of the 2010 AMA Safety Code states, "I will yield the right-of-way to man-carrying aircraft and will see and avoid all aircraft, utilizing a spotter when appropriate."

Lessons for all
A strong argument can be made that this was clearly a situation where the use of a spotter was appropriate. In this instance the noisy environment created by the hovering RC model and sole reliance

on the air boss to maintain separation between the aircraft resulted in the RC pilot being unaware of the approaching full-scale traffic.

Another contributing factor in this incident was the absence of a delegated lead to manage the aeromodeling activity. The fly-in was not sanctioned, so there was no designated Contest Director. The club did not assign a lead individual to oversee the RC operations, and the overall aeromodeling activity was placed under the direction of the HOA president. Had there been a designated leader overseeing aeromodeling activity, the decision to allow concurrent operations may have been reconsidered.

There has been a fair amount of finger-pointing as a result of this incident; however, there's little to be gained by assigning blame. It's extremely fortunate that the outcome of this incident was not more severe, and it's important that we learn from this experience and apply the lessons toward ensuring the safety of future aeromodeling operations.