COMAC PLUGS AWAY AT C919 SYSTEMS INTEGRATION

News / Manufacturer



Comac is engaged in the second stage of software integration testing for its C919 narrowbody programme, while the first test aircraft awaits the installation of wiring.

The software integration work is taking place at the company's campus on the outskirts of Shanghai, where an avionics test lab is located down the hallway from the C919 iron bird rig.

During a tour by Flightglobal, a company official explained that "first loop" integration has been completed. This saw avionics integrated with aircraft systems in the lab, with the software then loaded onto the iron bird rig.

The 21-strong avionics team, with assistance from foreign avionics suppliers, is now engaged in "second loop" integration, which will fix bugs and issues identified in the first loop integration. The second loop comprises all internal functions including displays, navigation, communications, flight management system, and others.

This second software load will also be ported to the iron bird. Here, the avionics and several aircraft systems such as fuel, landing gear, engines, hydraulics, and the auxiliary power unit are

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tested together. Including the iron bird integration, second loop testing is expected to finish in June or July.

Learnings from this will inform the “third loop” integration. The team foresees that the third loop will be somewhat less challenging as bugs will have been ironed out. This loop will also be ported to the iron bird rig, and then onto the first flight test aircraft itself, which is expected to have its maiden flight by the end of 2016.

After this, the avionics lab will be in a position to replicate issues that emerge during the flight test campaign, which will involve six aircraft.

The official adds that the C919’s initial software load will, in fact, be considerably more austere than those to be found on a prototype from Boeing or Airbus.

Flightglobal also inspected aircraft 101, the first flight test vehicle that sits in the company’s final assembly hall near Pudong International Airport. Following the roll-out in November 2015, large sections of the aircraft have been taken off.

The two CFM Leap-1C engines have been removed, as have all the control surfaces on the trailing edge of the wing. There are also no leading edge flaps mounted. The aircraft’s elevators, however, are mounted on the horizontal stabilisers.

While the landing gear is mounted, the landing gear doors have been removed. The aircraft is also supported by pneumatic jacks.

In the interior of the jet, there is no apparent wiring and there is a still a temporary wooden floor underfoot. All cabin doors and emergency exits have been removed.

In addition, the cockpit is devoid of any flight controls or instruments. A company official says these were in place for the roll-out, but subsequently taken out.

A key next step will be to install the wiring.

The official adds that installing the physical components of the jet is not likely to present a great challenge. The real challenge, he says, is getting the software integration right.

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