



# PROFESSIONAL DEVELOPMENT FOR TEST PILOTS

Test pilots' opinions are pivotal to the approval of a modification. Now they have an opportunity to improve their skills.

**T**he CAA is calling for expressions of interest in a planned series of workshops for later this year, dedicated to upskilling category 3 test pilots.

Such pilots test modifications to all types of aircraft, such as a new radio; how a stretcher fits; night vision capability; or a guidance/warning system.

The proposed workshop will include, among other topics:

- the responsibilities of the test pilot, including being 'the voice of the operator'
- planning a test flight which reflects the objectives of the engineers, and carefully follows the test schedule
- the importance of good communication so all parties have a mutual understanding of what's involved
- identifying, assessing, and controlling the risks associated with the test flight.

"Test pilots are critical members of teams who design, manufacture and certify aircraft modifications," says Tim Dutton, a CAA specialist in flight test engineering.

"They play a key part in ensuring that a modification is not only effective, but also meets relevant airworthiness criteria," he says.

"The purpose of test flying is to collect data correctly. That means the data must be robust and valid, so that equally robust decisions can be made about whether or not certification requirements have been met.

"Test pilots need to be critical thinkers able to provide objective feedback to the engineers. They need to be open-minded, assertive, and prepared to say, 'this is not acceptable, we need to go back to the drawing board'."

Jon Kerr is the chief designer and CEO of Hamilton-based Flight Structures, a Part 146 company.

Communication, he says, is "huge" in the modification approval process.

"There are so many parties involved: the design company; the maintenance organisation; the manufacturing facility; the test pilot; and the operator.

"So training a test pilot, who's at the centre of the whole process, how to communicate really well with all those parties, can only be a plus."

Jon says it's also good the workshop intends to build pilots' awareness of how to do a robust assessment of the risk surrounding the flight itself.

"It's important the pilot can effectively assess what could go wrong," he says.

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“If the pilot can learn to (a) properly assess the risk of what they’re being asked to do, and (b) communicate how they feel about that risk and what they want to do to mitigate it, they’re obviously very valuable skills.”

Jon says one of the most important things a test pilot can do is to consult with the operator – the end user – really early in the process.

“I’m really hot on the pilot getting the input of the crew who’re going to be actually using the equipment,” he says.

“The crew might say, ‘Well we can see what you’ve written here, we can see that the mod ticks off the rules and is compliant. But, actually, in reality, it doesn’t work that well.’

“Getting their opinion early on really smooths out the whole procedure.”

## The workshop

The proposed one-day workshop is primarily aimed at pilots with little or no test flying experience who’ll be involved in Category 3 test flying in the future. But the workshop is open to – and would benefit – engineers, project managers, or anyone else who would like to know more about testing aircraft.

It will combine lectures, discussions, and exercises to explain basic flight test principles.

The emphasis will be on certification test flying and its associated processes.

Tim Dutton says participants will leave the workshop able to plan, conduct, and report on tests in a robust and methodical way.

“Hopefully they will have gained an understanding of the importance of conducting a test activity in a safe, effective, and efficient manner,” he says.

Jon Kerr is particularly pleased about the workshop including the importance of good communication skills, and involving the operator early on.

“The more people talk to each other,” he says, “the better things are. And the more time the test pilot spends talking to the end users, the better the flight test programme will be.”

If you’re interested in participating, email [tim.dutton@caa.govt.nz](mailto:tim.dutton@caa.govt.nz). The dates and locations of the workshops will be decided based on the interest received. 



Photo courtesy of Flight Structures.

// This Flight Structures system in the new Auckland Rescue Helicopter Trust AW 169 has the stretcher in the transverse position for loading the patient, but then swivelling to the longitudinal position for flight. That allows the medical team substantially more room to work on the patient, including stabilising them during flight, rather than on the ground. That could save up to 30 minutes in delivery to the hospital.