

Fifth-generation fighting force

ROYAL AUSTRALIAN AIR FORCE

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Fully integrating people and modern platforms – now including F-35s – is key to Australia's goal of seamless air power. We get the view from one of its senior commanders



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In December 2018, the Royal Australian Air Force (RAAF) truly entered the era of the Lockheed Martin F-35, with the arrival of its first two examples. After a long flight across the Pacific from Luke AFB in Arizona, the pair of jets were welcomed by Boeing F/A-18A/B “classic” Hornets, the venerable fighter they will replace.

The moment was a long time coming: RAAF pilots and support crews have been training at the Luke AFB F-35 school since 2015, with the service's first F-35A delivered in 2014. Ultimately, Canberra could obtain up to 100, making it among the largest international operators of the type.

Air Vice Marshal Steve Roberton, Air Commander Australia, says the F-35A is part of the RAAF's continuing evolution into a “fifth-generation air force” – a well-oiled machine that works seamlessly together.

Roberton has served with the RAAF since 1989 and has over 3,000h in the cockpit, mostly in F/A-18As but also in the F/A-18F Super Hornet.

In an interview with FlightGlobal on the eve of Australia's biennial Avalon air show, he says: “We are in a fairly privileged position of being one of the first all fifth-generation forces in the world. In terms of platforms, we're well on track.”

Since the last Avalon show in 2017, the RAAF has been working to integrate assets

such as the Boeing E-7A Wedgetail airborne early warning and control (AEW&C) aircraft, F/A-18Fs, and its EA-18G Growlers. Still, Roberton views the arrival of the F-35A as the biggest development.

“It's been a busy couple of years, but we're really pleased with the progress that we've made, both in the development of the platforms and making them work together in that fifth-generation force, but also with our people. It's been a very successful intervening two years.”

The F-35A, of which has Australia currently has 10, is due for initial operating capability in late 2020. This involves a fully operational squadron in Australia, as well as a training squadron. Full operating capability is due in



F-35A will follow Hornet as RAAF's fighter backbone

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Geography makes KC-30A tanker crucial strategic asset; a seventh will arrive this year



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Options to extend Super Hornet force's service life beyond 2020s are under consideration

2023. This will see three operational units – 3 Sqn, 75 Sqn and 77 Sqn, in addition to the training squadron. For the time being, eight aircraft remain at the Luke AFB training school. An additional eight will be delivered in 2019.

SHIFTING MINDSET

Robertson – essentially the RAAF's chief operating officer – discusses aircraft in the context not just of capability, but also logistics and human resources. He says F-35A sustainment has required a cultural shift, given that the type is fundamentally a US Air Force platform and the USAF's maintenance philosophy differs from that of the US Navy – and Australia's existing fast jet fleet com-

prises mainly navy types such as the Hornet, Super Hornet and Growler.

"We've already adapted fairly well to it," he says. "We've had women and men in the USA for some time now training with US systems and becoming familiar with not just the maintenance philosophy, but the documentation and the means of doing it. It's progressing well and we're pretty confident about it."

As for the 71 F/A-18A/Bs that the F-35As will replace, Canberra has entered a deal to sell up to 25 examples to Canada for A\$95 million (\$68 million). Of these, 18 will serve as combat assets and seven will be used for spares. These aircraft will fill a capability gap while Ottawa holds a competition for a future fighter aircraft.

While the Hornets are set to depart the RAAF after decades of service, Canberra will continue to operate its powerful force of 24 F/A-18F Super Hornets, which were obtained to fill a capability gap caused by delays in the F-35 programme.

Original plans for the Super Hornets called for their retirement in the 2020s, but there is speculation that Canberra may opt to keep the type, possibly upgrading them to the USN's Block III standard. This activity includes a range of structural and sensor upgrades, as well as the ability to receive and transfer large amounts of sensor data with other aircraft.

On the long-term prospects for the RAAF's Super Hornets, Robertson says in the "next few

“years” a proposal will be made to the government about the air force’s future asset mix.

“Having tied ourselves in with the US Navy and their plans and upgrades – and what’s more, the US Navy’s integration of Super Hornet, Growler and their own F-35 variant – I believe there are more options for extending the life [of the Super Hornet]. But these are matters for the Australian government, and part of this planning will be put forward to the government to consider.”

STRUCTURAL INTEGRITY

He adds, however, that the air force is “very confident” that this future force structure will be based on the F-35, EA-18G and the E-7A.

“We’re in a great place. We’re not being driven by ageing platforms like many other services around the world. The Super Hornets are still in very, very good nick. They are very capable of course. But we need to find where we get the right cost benefit, and what that future force requirement looks like. This will be driven by government policy and our own defence strategy in the coming years. More to come.”

Originally, Canberra obtained 12 EA-18Gs, adding a new electronic attack capability to the Australian Defence Force. One aircraft, however, was lost, owing to the catastrophic failure of a fan disk in its left side GE Aviation F414 engine. The aircraft was attempting to take off from Nellis AFB near Las Vegas during a Red Flag-series exercise. No personnel were injured, but the aircraft was a write-off.

With the Growler force reduced to 11 airframes, there has been speculation about whether Canberra will obtain a replacement for the lost example. Another option is reconfiguring one of the baseline F/A-18Fs as an EA-18G, because 12 of the RAAF’s Super Hornets are configured for conversion to the electronic warfare type. Robertson says options are

“Hard to imagine”
conflict with no
role for EA-18G



being explored, but the air force is still familiarising itself with the capabilities inherent in the platform. At some point, it will present options to the government.

Despite the accident, Robertson has very high marks for the capability the EA-18G brings to the RAAF.

“The Growler is such a capable platform and very flexible up and down that entire conflict spectrum. It is capable of penetrating [enemy airspace] with strike assets to help control that electromagnetic spectrum, but equally it contributes to joint roles or working with our naval platforms or land forces in stand-off roles. It’s hard to imagine a scenario where a Growler couldn’t make a pretty meaningful contribution to the joint effect you’re after.”

Robertson is also happy with progress on two critical enablers for the RAAF’s combat power, the E-7A AEW&C capability and the Airbus Defence & Space KC-30A tanker.

The E-7A has operated effectively in the complex environment over the Middle East in support of Australia’s contribution to efforts against Islamic State in Syria and Iraq. The aircraft have operated missions of up to 13h, made possible by its in-flight refuelling capability. The RAAF is in discussions with the Royal Air Force and the USAF, both of which will need to replace their ageing, Boeing 707-based E-3 aircraft.

“Wedgetail has garnered a great deal of interest from the USA and the UK, who are working with us on how we iteratively upgrade it,” says Robertson.

The RAAF’s tanker ability continues to mature, with the delivery of its sixth KC-30A (the Australian designation for the A330 multi-role tanker transport) in late 2017; the seventh is due to arrive in the middle of 2019. The aircraft has played an important role in both combat deployments to the Middle East and in supporting deployments to Australia’s neighbours in Southeast Asia.

“We’re yet to invent an air war security scenario where we have too many tankers,” says Robertson. “Australia is expeditionary by nature being where we are on the globe, especially given the distances just to get up and work with our allies in the near region or in the Middle East. The KC-30A has been an absolute fundamental enabler for us.”

Looking forward, Robertson feels that there are several emergent technologies that will impact air forces, namely the deployment and increased capabilities of large unmanned air vehicles. Of import will be the mix of manned and unmanned assets, and how these elements work together.

“There are rapidly developing technologies in that area around the world. It’s safe to say the air force in 2029 is not going to look exactly like it does in 2019.” ■



In-flight refuelling enabled 13h Wedgetail missions against Islamic State in Iraq and Syria