A US Chinook flies missions with the Australian Army aviators in southern Afghanistan. Photo: Australian Department of Defence.

# Jason Duggan

Australian Helicopters pilot Jason Duggan flies a Bell 412EP with Air Ambulance Victoria, where he also gets to check and train fellow emergency medical service pilots. He tells **Tim McKnight** it's the perfect work for him at the moment following a distinguished career in the Australian Army flying Chinooks and Kiowas.

In the black of night a medical crisis unfolds in a remote corner of country Victoria. Responding to a frantic plea for help, the pilot deftly guides the Bell 412EP air ambulance through the dark to the scene on the isolated mountain road. With no place to set down, he hovers the craft above the towering eucalyptus while the air crewman lowers the mobile intensive care ambulance (MICA) officer to examine the middle-aged man clutching his chest in agony. The consummately professional paramedic makes a swift diagnosis of the patient's cardiac arrest, stabilises him on the stretcher, and has him winched into the Bell for the 20-minute evacuation to Melbourne's Alfred Hospital.

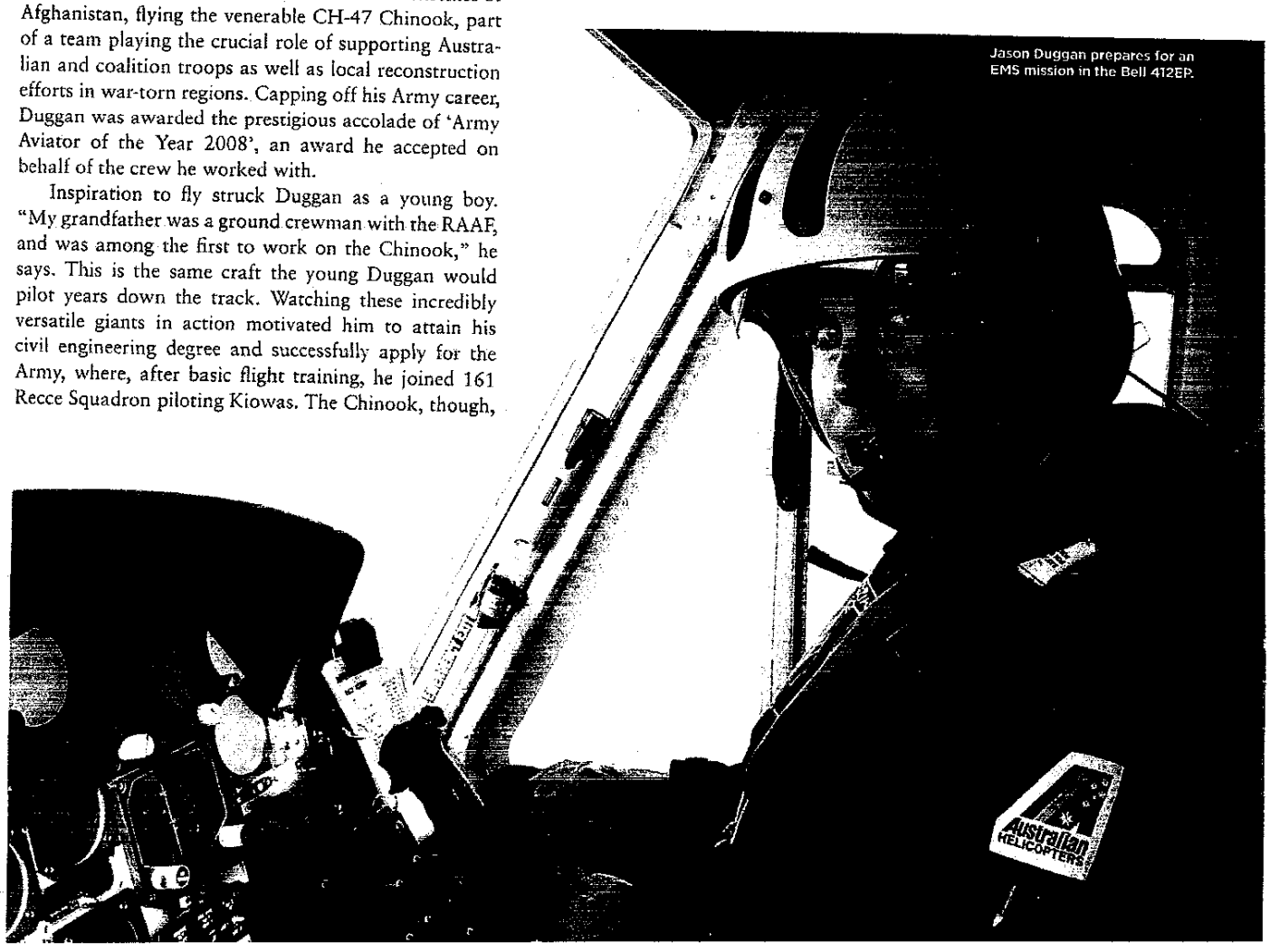
This is but a snapshot of a scenario that may be faced by Australian Helicopters pilot Jason Duggan on any given call-out. With more than 4000 hours under his belt, Duggan is one of a select few helicopter pilots with the right stuff to fly Emergency Medical Service/Search and Rescue (EMS/SAR) missions from the Essendon Airport base of Air Ambulance Victoria.

Duggan joined Australian Helicopters in April 2009, following a distinguished career in the Army as a helicopter pilot. His 16 years of service witnessed him teaching basic combat skills to US Army pilots at Fort Rucker, Alabama, in OH-58 Kiowas, plus performing stabilisation and humanitarian work in the steamy environments of Bougainville and East Timor. He concluded his military stint with two tours in the harsh extremes of Afghanistan, flying the venerable CH-47 Chinook, part of a team playing the crucial role of supporting Australian and coalition troops as well as local reconstruction efforts in war-torn regions. Capping off his Army career, Duggan was awarded the prestigious accolade of 'Army Aviator of the Year 2008', an award he accepted on behalf of the crew he worked with.

Inspiration to fly struck Duggan as a young boy. "My grandfather was a ground crewman with the RAAF, and was among the first to work on the Chinook," he says. This is the same craft the young Duggan would pilot years down the track. Watching these incredibly versatile giants in action motivated him to attain his civil engineering degree and successfully apply for the Army, where, after basic flight training, he joined 161 Recce Squadron piloting Kiowas. The Chinook, though, remains his favourite ship. "It's an amazing aircraft, with a speed of up to 170 knots. And it's surprising how agile it is," he says. The priceless training and experience he received while flying helicopters in military service prepared him particularly well for the next phase of his life as an EMS/SAR pilot.

Flying EMS/SAR presents air ambulance crews with a whole realm of uniquely challenging and profoundly rewarding scenarios. Call-outs may take a crew of three from their base at Melbourne's Essendon Airport to a search for missing bushwalkers in Victoria's scenic high country, to a traffic accident on the Hume Highway or, perhaps, to a marine incident on Port Philip Bay. But for Duggan, there's no such thing as a typical shift in the air ambulance – the job's variety is a major attraction for him. His team works rotating rosters: two night shifts of 14 hours each, followed by two day stints of 10 hours each and topped off by four days of well-earned rest and family time. "We get an average of one flight per shift, but occasionally there are two or three or none at all," Duggan explains, "and most call-outs take around three hours from start to finish."

Duggan enthusiastically endorses the Bell 412EP as an ideal platform for EMS/SAR work. Based on the much loved UH-1 Iroquois 'Huey', the Bell has a strong pedigree in saving lives. The rugged build, large payload, enhanced control and navigational capabili-




Jason Duggan prepares for an EMS mission in the Bell 412EP.


Jason Duggan and the Bell 412EP at the hangar in Essendon, Victoria.

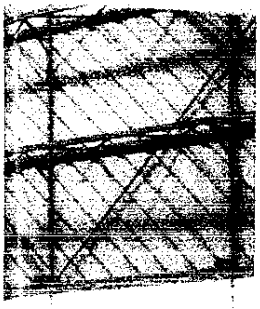
> "NVGs are similar to what you see in the movies. With a 40-degree field of view, it's like looking through a couple of toilet rolls, but brings extra safety to the job." – Jason Duggan

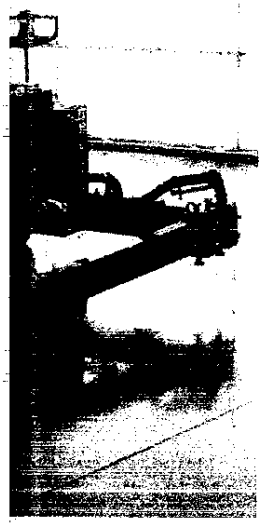
ties, and mobile intensive care medical suite ensure the craft is always a welcome sight to people in distress. The 412EP is powered by a reliable pair of Pratt and Whitney PT6-DF engines that generate a total power output of 1800 shaft horsepower, and have a range of 280 to 300 miles. The maximum take-off weight is 11,900 pounds (5400 kilograms), with payload differing depending on the task at hand. This single-pilot aircraft can operate under IFR, giving the 412EP all-weather capability, with Duggan assisted by GPS (global positioning systems) and night vision goggles to enhance accuracy and safety.

Needing only one pilot frees up space and weight for extra passengers or equipment, further extending this awesome helicopter's life-saving credentials. Complementing seats for the pilot and two crew, there are places for two additional passengers and space for one stretcher; however, the 412EP can be reconfigured to carry a second stretcher if necessary. Duggan feels particularly privileged to pilot the only air ambulance helicopter in Victoria equipped with a neonatal cot. This priceless piece of equipment is essential for protecting the lives of critically ill newborn children en route to the Royal Children's Hospital. A paediatrician and paediatric nurse accompany the neonatal cot in flight to provide specialist care. In discussing aspects of the job most rewarding for him, the father of two says, "There are different challenges to every job. When children are involved, I like to follow up how they're getting along."

A day on duty goes something like this. After arriving on base, the crew gathers for pre-flight procedures. This includes assessing the regional weather forecasts for all regions of Victoria plus southern New South Wales, Bass Strait and northern Tasmania, reviewing crew proficiencies and running a maintenance check on the helicopter. Treacherous weather conditions can crop up at any time – especially in the volatile alpine region – hampering operations even for the rugged and versatile Bell 412EP, so the crew needs to be prepared for anything and make careful judgements as to where to draw the line. The warmer air of summer also introduces weight constraints to the equation. Once these checks are completed, the team waits for a call. During day shifts the response time from call to take-off is just 10 minutes, and at night it's 20 minutes.

When a call arrives, the crew springs into action. Having pinpointed the destination and fired up the twin PT6-DFs, the air ambulance rushes toward the scene at up to 120 miles per hour with a MICA paramedic and an air crewman on board. Although night flights add an extra dimension of risk to call-outs, the advent of GPS and night vision equipment has significantly improved the margin of safety on a call-out, helping Duggan to identify suitable landing sites and spot his patients from the air under poor light and cloudy conditions. In exceptionally isolated locales and rugged ground, the crew may have to work alone with or without the winch, but





more often they rendezvous with other emergency services, stabilise the patient/s and deliver them to the nearest appropriate hospital. Duggan radios an estimated time of arrival (ETA) to the receiving facility, where security prepares the helipad and a recovery team whisks the patient inside for further treatment.

Arriving back at base affords the crew no time to rest just yet. The helicopter must be refuelled, restocked with medical supplies and reconfigured, if necessary, for the next flight, which could come at any time. The air ambulance base features rest facilities for the crew to take a kip during the night shift if time permits, but there's plenty to keep Duggan busy during the shift if he's not attending an emergency. The crew regularly drill scenarios to maintain and improve proficiency in a broad range of medical and rescue skills. These practice sessions help to identify who needs training and in what areas. Duggan specialises in EMS/SAR flight instruction for fellow pilots, vital for attaining ratings and staying current according to CASA regulations. There's also winch and night vision goggle training to assist with. "NVGs can make things somewhat better; we can sometimes get below the cloud for a better view of the ground," he says. "It's similar to what you see in the movies. With a 40-degree field of view, it's like looking through a couple of toilet rolls, but brings extra safety to the job."

Being the pilot doesn't mean sitting back and waiting while the paramedic and air crewman do all the treatment on the ground. Duggan relishes his role as part of the emergency team, so must remain current with medical procedures such as drug knowledge and administration techniques, and advanced first aid. As the air ambulance is sometimes the only team that can reach a patient, that extra pair of hands can make a crucial difference.

And there's always the helicopter to clean.

As the shift draws to a close, the crew hands over a clean, stocked and fuelled helicopter to the incoming team that in a perfect world would not have to leave the tarmac.

Turning attention to his ambitions, Duggan considers himself very fortunate to enter the field of EMS/SAR flying with Australian Helicopters. He has fond recollections of his Army career, but the foreseeable future has him focusing strongly on continuing to develop his capabilities in checking and training for fellow EMS pilots. Not to mention making a measurable difference to the lives of critically ill people, what he considers to be one of the most rewarding parts of his job.

And as his wife never ceases to remind him, "Your employment is also your hobby." We should all be so lucky. **HN.**