

AIR PRESSURE

BEHIND THE GLAMOUR OF A RED BULL AIR RACE PILOT A TEAM OF SUCCESSFUL MANAGERS, ADMINISTRATORS AND TECHNICIANS DOES THE BUSINESS.
BY PAUL SOUTHWICK CA



IMAGINE FLYING INVERTED,

a few hundred feet above ground, pressured by 12 times the force of gravity, in a steep turn, with terra firma rushing up at 400kph, in a strong cross wind. There's a live TV audience of millions, and a competition that might go down to a thousandth of a second.

That's a normal day at the office for the pilots in the Red Bull Air Race. Which means they need the team behind them to have done its job, right down to the most finite detail.

Conceived by Red Bull's think tank, this eight-race, seven-country, three-continent, world championship brings €30m of economic benefits to each host city, and attracts the best of the best.

One of those aviators is Australian Matt Hall. A third-generation pilot, the 45-year-old former Wing Commander in the Royal Australian Air Force (RAAF) served three years on a US Air Force exchange programme flying the F-15E Strike Eagle, including in combat over Iraq. Hall finished second in the competition in 2015 and 2016.

Teamwork

Hall's team is surprisingly small. It's not like the Mercedes F1 drivers who have 90 assistants on race day, a further 750 at the Brackley F1 factory, and 500 at Brixworth AMG High Performance Powertrains. Each F1 driver has five engineers and 15 mechanics on race day.

"We have a multi-layered team," says Hall.

"The first is those people on course. There are just three others – Eric my engineer, Peter, our tactician, who is ex F1, having worked for then world champion Fernando Alonso, and David, who oversees operations and communications."

"The second tier includes my wife, Pedita, a former flight surgeon in the RAAF, Kate our business manager who runs flight operations at Lake Macquarie Airport [which Hall owns], and Michael, our aerodynamics expert, who is based in Germany and manages

design and development.

The third includes a personal trainer who develops fitness and training programmes for Hall, and a sports physiologist.

"It doesn't matter how good you are – even at an elite level, someone can make you better," Hall says.

This group includes a specialist aviation doctor, physiotherapist, chiropractor, masseuse and general practitioner. They are essential, due to the physical stress of travel, training, and racing.

"Almost 20 years of flying fighters was not kind to my body. I must work even harder to stay in top condition."

The fourth is the support from sponsors. They make competing possible.

"Dave and Andrew manage relationships with QBE Insurance, OzRunways, the Australian-owned electronic flight bag, Massel, a food stock company, and Germany's DG Gliders," says Hall.

"The fifth is the public support. We can't race and attract sponsors unless we're followed. We're active on the web and social media. The Red Bull Air Race is the third most popular motorsport in Europe. Its channels get over two billion hits a year."

The final level of support comes from Red Bull itself, which Hall is contracted to. Hall must provide an aircraft, and at least three support people on race day. Red Bull provides venues and equipment, approvals, logistics to move planes and equipment around the world, a race day hanger, accommodation, and of course worldwide promotion.

The pilots have a choice of aeroplanes. In 2017 Hall will switch from an MXS-R to an Edge 540. These are finely tuned machines.

"If the crew have not polished part of the airframe, or a sticker peels off just 1mm, I can feel it when flying. Even a barely visible nick from a hail strike to the leading edge of the wing affects

performance. The team is great though, and no matter what the rattle or noise, they can find and fix it."

The engines (Lycoming Thunderbolt AEIO-540-EXP) and propellers (Hartzell 3-bladed 7690 structural composite) are the same for all competitors.

The only things teams can tweak are the airframe, air induction system, temperature management or cooling, and extraction systems. The differentiators are therefore the skill of the pilots and quality of the support teams. This makes sure that competitors do not cut equipment corners at the expense of safety.

Preparation

The team has a two-day meeting, two weeks before departure for each race. They review lessons learnt from the last race, and discuss bugs that need to be fixed. They do a slow walk through of the coming race procedures.

The team sets both race and personal goals.

"It's important not to think about the world championship in the first race," says Hall.

"Team goals might be, for example, no flying penalties on race day, or no maintenance or design penalties, at any time."

At about the same time, Hall starts conceiving and designing the best line for the coming track. His tactician will run Hall's race plan through computer models. Hall then takes out his home-based aircraft, and flies the imaginary track, multiple times.

"I cement it in my head. We don't use simulators (sims) like F1. Sims are ok if you have memory items to learn, for example, gear changes. But our flying is all about forces, hands, feet and eye balls. No sim can replicate that."

Hall departs about a week before each race. He must battle jet lag, lack of sleep and fatigue from the flights. Dehydration and bad sleeping posture can play havoc for a few days. His race day team arrives earlier, to ensure



the plane is ready for training on the Wednesday. Often this will be away from the race track. On Thursday, they position themselves trackside.

The pilots usually all stay in the same hotel. Most are good friends, and there is strong support for one and other, with tremendous mutual respect.

"At the elite level, we are all are highly accomplished professionals. You know what they did to get there. No one got here by accident."

Strategy

On race day, there are breakfast meetings to discuss strategy – this differs from the early years, where the goal was simply to win.

"Now, as key rounds are head to head, it might be about what I must do to position myself for the final, by not meeting the number one ranked competitor in any early round."

Data analysis, like in business, is critical to winning.

"After each race, before I'm even out of the cockpit, a data stick is extracted. It contains 64 channels of information that goes straight into spreadsheets and

graphs. We are looking for deltas from our previous best runs, and emerging trends – positive or negative."

To ensure safety is paramount there is no prize money.

"The better we do, the easier it is to attract sponsors though," says Hall.

Asked if 18 years as a fighter pilot helps, Hall says "Not in relation to the flying itself, but in the Air Force I learnt mental discipline. The Air Force taught me how to design and plan something clinically. The front line allowed me to test what I had learnt."

"As an Air Race competitor, I am a planning and execution expert. The race flying itself is natural and artistic."

Regarding setbacks, Hall says it is not a hobby, it's a career.

"If I get knocked out in an early round, it's gutting. I'm the one who is most disappointed if I muck up. This sport is unusual because I am both the team leader and the athlete."

Hall says a great team is one that sticks by you.

"We can all be disappointed at times, but a good team learns, and gets better next time." ●

CO-PILOT ACCOUNTANTS

Whytes Accountants, located in Nundah, North Brisbane, represent many sports personalities, and are a critical team member for Hall.

"Our business has revenue earned and money spent in multiple countries, withholding taxes paid offshore to be claimed back, international multicurrency expenses, and high value depreciable assets, purchased and located, all around the world. We have huge third-party risk, so asset protection is important. I always get a near instant response from Whytes – even on the weekend," says Hall.

"QBE looks after both my personal and business policies. In some cases, we need A\$30m third-party cover. They arrange all this for us via email."

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