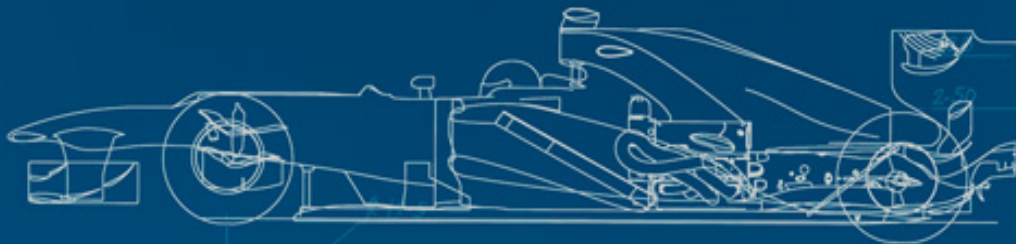


'Adrian has a unique gift for understanding drivers and racing cars. He is ultra competitive but never forgets to have fun. An immensely likeable man'

Damon Hill

HOW TO BUILD A CAR

Adrian Newey



'The greatest Formula One designer of his - or any other - age'

Sunday Times

HOW TO BUILD A CAR

Adrian Newey



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ABOUT THE PUBLISHER

PROLOGUE

Clouds were gathering that day. Rain was forecast. Feeling scrutinised, I lowered myself creakily into the cockpit of the FW15, painfully aware that at 35, after 10 years in the business, and with two constructors' championships under my belt, I was about to take my first proper spin in a Formula One car – in fact, my first real drive on a race track, period.

It was 1993, and I was chief designer at Williams. Frank Williams, owner of the team, had been talked into letting a journalist take one of our cars for a spin. What you might call a promotional drive. With that idea gaining traction, co-founder and technical director, Patrick Head, thought that the senior engineers, him, me and Bernard Dudot, who was in charge of Renault engine development, should also have a go.

And so here I was, sitting in the car at the Paul Ricard circuit in the South of France, absorbing from a driver's angle all the things I'd paid so little attention to as an engineer: the procedure for the ignition sequence; the whine and howl of the engine – a feeling of being cocooned but alone in the cockpit, as though the sheer volume and bone-shaking drama of it is physically holding you in place. Nerves suddenly give a feeling of intense claustrophobia.

'You've got to be smooth on the clutch or you'll stall it,' I'd been warned.

I didn't want to do that. Just the pride talking here: after all I'd designed it; I really didn't want to stall it – like some kind of competition winner.

I stalled it. Those carbon clutches are so aggressive. You have to give the engine about 5,500rpm, which is like trying to move off at the rev limit for a normal road car. Even then you're barely touching the throttle.

They wound it up again and this time I managed to get off the line, tentative but wanting to give a good account of myself. Taking to the

straight, I had the traction control wound up high for stability, but even so it felt like I was wrestling with the car rather than driving it. I was wearing my motorcycle helmet, which was in constant danger of being sucked off my head, the chin strap throttling me. I'd thought the constant howling noise was immense at a standstill, but on the track it's like World War III breaking out in the cockpit. The airbox is above your head so it felt as though the V10 was screaming at me, while the sheer forward thrust, the sense of the car wanting to break free of my puny control, was breathtaking. We're used to having absolute dominion over our machines, but not me over this one: the FW15 had around 780bhp in a car weighing 500kg plus the driver; so me with kit on, say 580kg, gave a very, very high power-to-weight ratio. And it was stunning.

The clutch at that time was still a left-foot pedal – these days it's on the steering wheel. Even so, you only use the clutch once, to get rolling, the rest of the time your left leg is unemployed. The right, of course, is trying to stay on the accelerator, though the monkey brain is telling it to get back on the brake pedal. The shift itself was the flappy paddle, still a relatively new feature that had not yet spread on to road cars. Lights on the dash – green, green, amber – indicated the build-up of revs. My limit was 14,000.

At 13,500rpm, the green light goes on. You get ready.

The second green blinks on at 13,700rpm. Almost there.

Amber at 13,900rpm.

Change.

That little sequence takes about half a second.

Gradually becoming accustomed to the noise and beginning to feel as though I was controlling the car and not the other way around, I thought how intuitive the driving controls are. Green. Green. Amber. Change. It made me see Paul Ricard from a new vantage point, and the act of piloting a Formula One car from a fresh perspective. I was in my forties when the bug to actually race rather than just design the cars bit deep – but it first nibbled at that moment.

It began to rain – *chucking* it down with rain. I'd started to get a bit cocky but the combination of inexperienced (but gathering in confidence) driver and the rain was not a good one, and as my