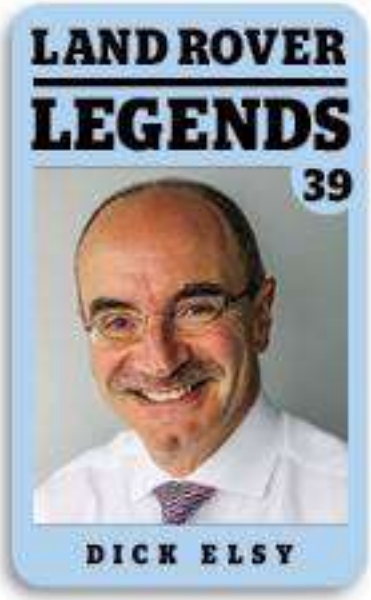
Father of the Freelander



Dick Elsy led major programmes that helped to define the UK car industry, including the Discovery and Freelander. He also pioneered the aluminium architecture technology that would become a feature of all Land Rover vehicles

STORY: GARY PUSEY PICTURES: GARY PUSEY AND DICK ELSY

I have to say that I share Dick Elsy's view that the most exciting time to be working at Land Rover was the period from the mid-1980s to the late 1990s. But while my opinion is formed through the prism of an enthusiast and historian, Dick was there and living every day of it at Canley, Solihull and Munich. And he left a successful and lasting legacy that is still at the heart of JLR's engineering design philosophy to this day.

"I joined Land Rover in 1983 after a spell at Coventry Climax on forklift trucks, which I'd joined after completing my education at Loughborough University," he says. "At Land Rover I was sent initially to Drayton Road and I found the development workshops a fascinating place to work. My first project was on Range Rover, and I remember the first vehicle I was assigned as a rookie in the Basic Range Rover development team was a four-door registered BHP 233Y. I was responsible for improving side window de-misting!

"I was also involved in Project Beaver, which was the VM-powered diesel Range Rover, and also one of the volunteers on the Bullet programme which led to us winning a raft of diesel records at MIRA in August 1986. Unfortunately, I wasn't actually at MIRA on the big day because I was in the USA on hot climate testing with Range Rover, ahead of the model's launch there in 1987.

"When I joined the company, Land Rover was still very much a development-led business, as opposed to engineering led, with the feel of a cottage industry. Things really began to change with Tony Gilroy as managing director where there was a real focus on doing things differently to get the company out of the hole it was in, with declining utility sales in many of our overseas markets, and not enough cash around to invest in Range Rover.

"Tony believed strongly that the Range Rover should be launched into the North American market, even though it was 17-years old at the time. It was the arrival of Charlie Hughes as the head of Range Rover of North America that catalysed a focus throughout Land Rover on brand and brand values, and I think it was Charlie who was the driving force behind the introduction of a set of Marque Values. As is always the case with these things, a mnemonic quickly gained traction to help everyone remember it, and 'I Always Fancy a Good S**g' was soon on everyone's lips to remind them about 'Individualism, Authenticity, Freedom, Adventure, Guts and Supremacy'!

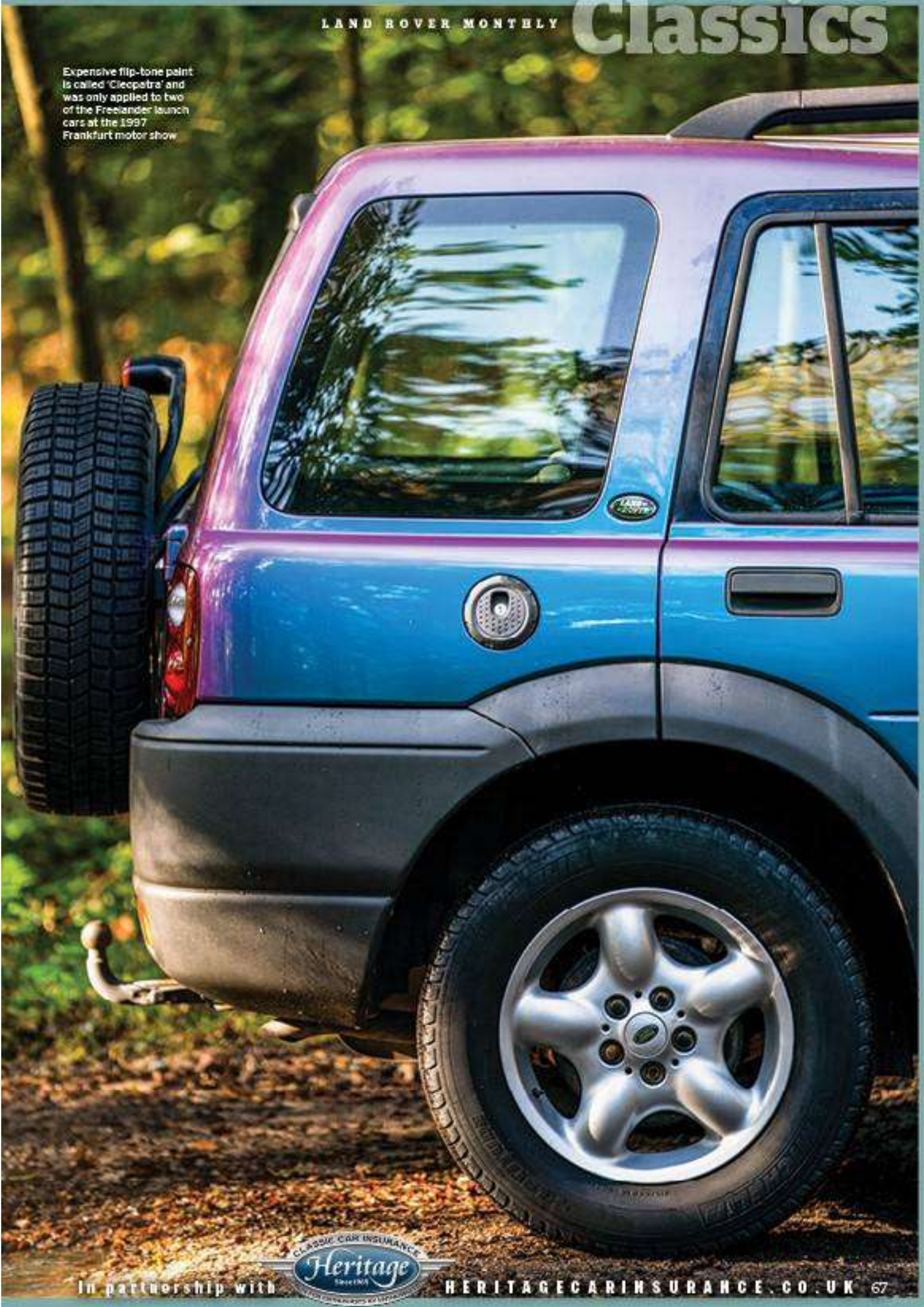
"Tony also championed the creation of a third vehicle in the company's product line-up, and I was assigned to what became known as Project Jay. Mike Donovan set up the Jay team and commandeered a huge Portakabin building that had always been known as 'Slumberland' because it had previously been seen as a sleepy hollows admin block, but those inside were moved out and the Jay team moved in. I was part of the team from the start right through to the launch of the Discovery in 1989, responsible for validating the vehicle during the test programme, issuing approvals to allow tooling to commence, and completing full sign-off on the project documentation, which basically meant giving the green light for production.

"The creation of the Discovery was done very differently to the company's traditional approach, with six separate development work streams being conducted in parallel that involved not only the in-house teams but also a lot of third-party suppliers and contractors, because we had to outsource work in order to meet the aggressive development timescales that Gilroy had set. Managing these teams to ensure that everything moved forward in sync, and that changes made by one team were communicated to the others, was a real challenge. Nowadays this would all be done with digital design systems that all the teams could track in real time, but in the late 1980s this technology wasn't around.

"Following the launch, I was chief engineer for all product-related development on the vehicle which included sorting out the inevitable issues caused by such an aggressive timetable. I remember we had panel sealing problems that were causing water ingress, as well as a number of bedding-down problems on the production line – the Discovery was not the easiest of cars to put together! I also oversaw the introduction of the 300Tdi engine to Discovery.



Dick worked on the Range Rover Turbo D, Bullet record-breaker, Range Rover dust- and waterproofing tests and both hot- and cold-climate trials



Expensive flip-tone paint is called 'Cleopatra' and was only applied to two of the Freelander launch cars at the 1997 Frankfurt motor show

"In 1991 there was another corporate reshuffle and Land Rover Vehicles was created as part of Rover Group, and the first managing director was Terry Morgan. It would be fair to say that Terry and I had had a fairly antagonistic relationship in the past – a typical engineering versus manufacturing sort of thing, which was not entirely unknown back then. Terry called me into his office and I thought he was going to fire me, but instead he asked me to join the board.

"I was one of three Product Directors and my brief was Discovery, while John Bragg had Range Rover and Terry Haswell had Defender, which included our military sales. Terry Morgan set an ambitious target of 100,000 vehicles per year, which was to be led by the roll-out of the Discovery into new markets such as North America. It wasn't long before Defender was added to my portfolio, which is why I ended up becoming involved in Project Juno, which was the Challenger development programme.

"Canley Advanced Designs had conceived the original idea that became Challenger, although I never really understood how and why it came to be a Canley initiative given that it was clearly an attempt to design a replacement for the Defender. Now that I had responsibility for Defender it was decided that I should take responsibility for Challenger as well.

"The business case for Challenger was predicated on a vast number of wheelbases and models – I think around 10 or 11 – and it was obvious that the basic vehicle was not going to make any money. I was instinctively unhappy with it and my relationship with the development team was rather frosty as a result.

"We decided to run a styling clinic where potential customers for the Challenger were invited to view a number of competitor vehicles alongside the Challenger styling buck and were filmed giving their reactions and comments. There was pretty much universal dislike for the buck, and one farmer looked at it and famously said 'it looked like something from the Eastern Bloc'. When he was asked what he would think if it had a Land Rover badge on it, he replied that he'd rush out to buy one of the last of the old ones. That farmer summed up my own thoughts on the Challenger, and the board breathed a collective sigh of relief when I presented my recommendation that the project be stopped.

"But cancelling Challenger did not mean that I did not see the potential space in the market for us to create a new vehicle. I did, but I believed such a vehicle should be smaller, lighter and more fuel efficient. As to the replacement of the Defender, I recommended instead that we could readily keep it in production and should invest more in it. Both recommendations were accepted.

"Meanwhile, the car side of the business had been developing a lifestyle MPV concept known as Project Oden that was inspired by vehicles like the Renault Espace and based on a transverse-engine layout with four-wheel drive. I thought that Oden had potential and, although it didn't look like a Land Rover, the concept had some of the attributes that we were seeking, so I decided to take the idea forward and get the Land Rover board on side.

"Our first step was to create the Cyclone concept vehicle, which was based on a Honda Shuttle with the roof cut off that was quickly nicknamed the 'Cut 'n' Shuttle', and Gerry McGovern was given the job of using it as the basis of a sort of small Land Rover pastiche. It was introduced to the Rover Group main board under John Towers at the end of a routine Discovery development review, when we whipped the covers off the Cyclone at the end of the formal meeting. The reaction was immediately positive. I remember sales and marketing director John Russell saying that he could sell that vehicle right now.

"The board gave us permission to pursue the idea and from that point on the development was really led by the Land Rover side of the business, and the car people were more than pleased to see their embryonic concept being taken forward. The project was christened CB40 after Canley, Building 40, where the project team was based, and as it was my idea I was put in charge as programme director. The initial business case looked good but the board soon got cold feet and told me there wasn't the budget and asked me to find the money. I wasn't very impressed with this, having

Project Jay final styling model in the Drayton Road design studio

put the Challenger investment back into the budget and my rather flippant response was to ask if they expected me to rob a bank, which didn't go down too well.

"I really believed in the project so Nick Stephenson and I started to tout the idea around to see if we could find a manufacturing partner. We talked to several companies including Valmet, Karmann, Steyr, Daimler, PSA and Honda. All but one declined, among them Honda, so it was rather amusing to see the launch of Honda's CR-V a few years later. We had clearly inspired them with our idea.

"But one company was very interested, and that was Valmet in Finland, which had a manufacturing facility with the capacity to build 60,000 vehicles and which was already doing work for Saab and GM. A group of us flew to Finland and we were very impressed with the plant. Negotiations proceeded very quickly and everything indicated the beginning of a sound and mutually-beneficial partnership.

"Valmet would build the three-door and pay for half of the engineering development costs, and Solihull would build the five-door.

Distinctive design details abound on the Freelander, from the exterior badging through to the styling of the door cards

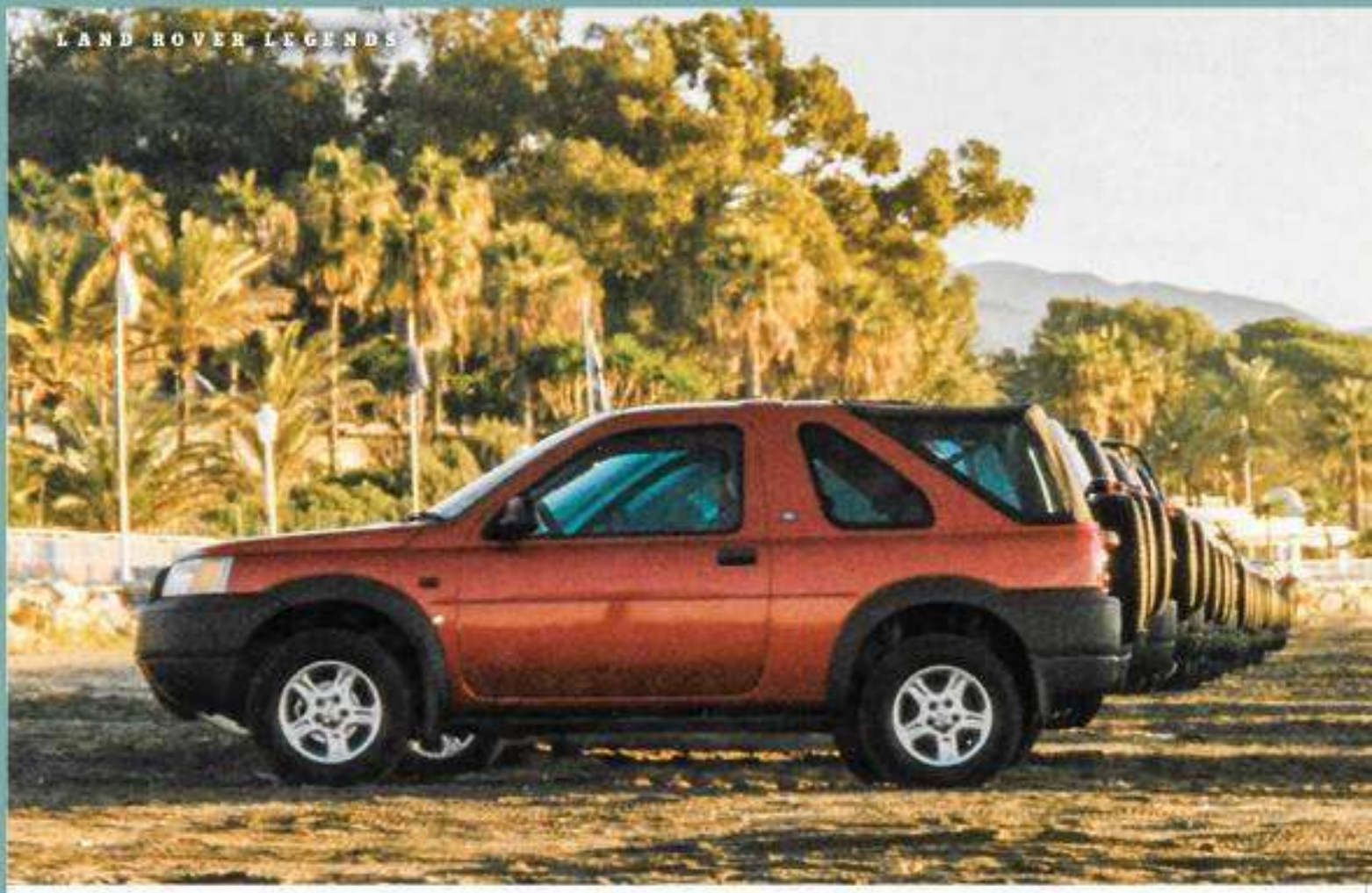
We even had the Royal Yacht Britannia lined up to sail to Helsinki so we could sign the contract on-board in the harbour there. It was nothing short of earth-shattering for us and the Finns when, with only three weeks to go before we signed the contract, it was announced by British Aerospace that Rover Group had been sold to BMW. Needless to say, one of the first things BMW did was cancel the contract with Valmet.

"BMW is a company renowned for its focus on engineering and product excellence, so it was no surprise that, as the person leading one of Rover Group's major new model development programmes, I came under scrutiny. There were numerous appearances before the BMW Vorstand or executive board, which at that time was dominated by CEO Bernd Pischetsrieder and Engineering Director Wolfgang Reitzle, both of whom would lose their jobs during the course of BMW's troubled ownership of Rover.

"The BMW board's support for CB40 was strong from the outset, and their decision to cancel the planned partnership with Valmet was because they did not want to outsource engineering and manufacturing, so if we were going to build the Freelander it would be in-house. Wolfgang Reitzle in particular was an uncompromising individual who could be very difficult to work with, but he was without doubt one of the best automotive engineers I have ever met. He demonstrated unflinching support for the project which undoubtedly put me, still only in my mid-30s, under extraordinary pressure. But he was focused on excellence and uncompromising on quality, and I learned a great deal from him.

"Steve Haywood was the chief engineer on CB40 and had worked with me previously on Discovery, and Gerry McGovern was chief designer. Drivelines, braking systems and so on had been put together at Canley, and we had a fleet of development mules that had been built for us by MEC of Saltley. These were basically Maestro van bodies mounted on Freelander underpinnings and proved to be very effective at camouflaging our chassis prototypes. What was interesting is that several enquiries were received by the company from people who had seen them out and about and wanted to buy one.

"We soon relocated from Canley to Building 38a at Solihull, which had recently been vacated by the second-generation Range Rover development team. In fact, I took over John Hall's office, and development continued apace. Once again, I took the opportunity to do things differently, although by now CAD 3D software was readily available and



Freelander caused quite a stir at its launch at the 1997 Frankfurt Motor Show

The Freelander Airbus that brought media guests to Marbella for the press launch

we set up Concurrent Assembly Mock-up, which allowed everyone including external partners to access the same system and make any required changes. The system meant that anyone whose activities were affected by a change made elsewhere in the team would be automatically notified. It was pretty groundbreaking for its time.

"I also made sure that every aspect of the project was fully integrated, even to the extent of including the civil engineering team that was designing and building the extension to the North Works that was destined to be our eventual production location. Integration to this degree was another first and made a huge difference to the project.

"Typically, suppliers of components to automotive manufacturers have a tough time and are under constant pressure in terms of delivery, pricing, agility and so on, and this can lead to adversarial relationships that end up working against everyone's best interests. I was determined to make our relationships with external suppliers much simpler and easier by focusing on collaborative and partnerial styles. It paid off in spades as the project moved forward and was also a much nicer way to work.

"One of the problems that affected the first-generation Range Rover and the Discovery was steel-to-aluminium electrolytic corrosion, a problem that will be very familiar to owners and restorers of these vehicles. To avoid this on CB40, we elected to go for an all-steel body, but quickly came under pressure from our marketing team who felt that a Land Rover vehicle should have a significant aluminium content. In order to show that we were moving forwards and not backwards, we decided to use an innovative new material called NORYL GTX to form the front wings. This is a material that blends polyamide and modified polyphenylene ether polymer technology to create something that has dimensional stability, low water absorption and heat resistance. The big question was whether it could go through the paint ovens without warping or melting, and there were a few heart-stopping moments during the evaluation process as samples appeared to bend catastrophically, only to regain their shape perfectly as they cooled.

"One of the often told stories about the Freelander is how certain loud voices within the company suggested that it

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A sea of Freelanders! The press fleet on the beach at Marbella in November 1997

could never be a real Land Rover because it didn't have a transfer box or a separate chassis and so on, and how Hill Descent Control came into being as a way of improving the vehicle's controllability on steep downhill off-road sections. What is true is that Roger Crathorne had heard about the new vehicle concept and had quite firm views on whether it could really be a Land Rover. He was pretty dismissive of it, so we decided we had to get him out in one of the Maestro mules. Once he'd driven it around Eastnor Castle he was fully sold on it, although he did comment on the fact that it was uncomfortably fast on steep downhill sections. His comments led to the engineering team thinking through the options and working with Wabco to come up with HDC by utilising the ABS, which we had already decided would be a standard production fitment.

"Another interesting twist in the Hill Descent Control story is the involvement of Spen King. Spen was retained by the company as a special adviser and he took a firm position on HDC, insisting it would never work. As you can imagine, this rather emboldened the anti-HDC brigade and made my life particularly difficult. We persevered, however, and all came good in the end. In a wonderful gesture of reconciliation, Spen personally sponsored me to win the Royal Academy of Engineering's Silver Medal for outstanding contribution to British engineering.

"The Freelander was revealed to the world at the Frankfurt Motor Show in September 1997. We wanted something that was a bit edgy and high-impact for the launch, and it was Gerry's team who came up with the idea of painting the two display pre-production vehicles in a flip-tone paint called 'Cleopatra', which gave a range of colours from kingfisher blue to purple to golden bronze, depending on the angle of the light. Both vehicles were painted by hand in the design studio, but at £1200 a litre there were never going to be more than two!

"I was so taken with these vehicles that I asked for the five-door to be retained and took it as my company car. Every time the fleet management people told me I was due for a replacement I told them I wanted to keep the Freelander and, when I finally left the company in 1999, I bought it. It still turns heads to this day.

"After the successful launch I was delighted when the Freelander won the 'What Car? Car of the Year' award, but by then I had been asked by Nick Stephenson and Wolfgang Reitzle to look at the Rover Cars vehicle replacement strategy. This would turn out to be a litmus test for BMW's enthusiasm for Rover cars, because what the car side of the business had styled was a great-looking medium-sized saloon and when this was presented to BMW they rejected it outright as a potential competitor to their 3 Series.

"My view is that BMW got behind MINI and Land Rover but were never totally comfortable with the car side and didn't have a clear view as to how it meshed with their core BMW car range. In the end, the message from BMW was that Rover Cars should focus on a small anchor vehicle that could be extended towards the medium range, but no further. And with this guidance, work was done on styling a small car and the initial costings made sense, apart from the fact that Longbridge would need to be developed and this would cost £1.2 billion.

"The BMW Vorstand required that we submit all of our presentations and documents ahead of the board meeting so they could be analysed and assessed, and the feedback we were getting is that it was being well-received. However, when the BMW board travelled to the UK for the meeting, for whatever reason Reitzle was late. He was never late, so this was rather unnerving. I started my presentation without him in the room, and I knew that he was known to hold negative opinions about the Rover Cars operation.

"Partway through my presentation Rietzle came in, clearly very irritated that he was late and that we had started, and he banged the table with his fist and said loudly that this 'would cost us billions and lose us billions'. CEO Bernd Pischetsrieder argued against him and eventually the presentation continued, and Pischetsrieder's conclusion was to accept the proposal. The next step was the presentation to the BMW Supervisory Board. No one from Rover Group was there, but we can surmise that the same disagreement surfaced again, because by the end of the meeting both Pischetsrieder and Reitzle had lost their jobs.

"I found myself in the middle of another uninspiring BMW mess immediately afterwards, when Wolfgang »

Dick Elsy hands over his flip-tone Freelander launch car to a delighted Philip Bashall of the Dunsfold Collection

Ziebart, who had succeeded to Reitzle's job, called to tell me that he wanted someone who had recently led a successful new vehicle development programme, someone who knew his way around Solihull, and someone who knew the Land Rover brand values. That person was me, he said, and he wanted me to go to Munich to engage on the L322 Range Rover development programme, which he considered to be in bad shape and wanted me to take over.

"The only problem was that Ziebart hadn't thought it necessary to tell anyone in Munich about his decision, including the person currently leading the programme and his boss, who told me not to bother coming because no one would work for me in Munich. It was the first time I'd experienced any anti-British sentiment since BMW had acquired Rover, and maybe emotions were running high after the dismissal of Pischetsrieder and Reitzle, both of whom had their supporters among BMW's senior management echelons.

"It was clearly an untenable position for me but nevertheless I did go to Munich and got the team together and found out that the primary source of the problem was that BMW had outsourced most of the engineering work to Karmann in Osnabruck. But it had been done on a handshake and no formal contract was in place. So neither BMW nor Karmann's teams really had a clear understanding of who was responsible for what.

"I spent a year commuting backwards and forwards to Munich, stabilised the project and put a support team together in Solihull. But then a timely call from a headhunter offering the job of engineering director at Ford-owned Jaguar was too good an offer to refuse, and despite BMW's requests for me to stay with the company, my Land Rover career came to an end."

Earlier this year Dick contacted Philip Bashall at the Dunsfold Collection and offered to donate R747 BAC, his flip-tone Frankfurt Motor Show Freelander, a generous offer that was immediately accepted. When Dick came down to Dunsfold to hand over the Freelander he was amused and delighted to discover that two of the Maestro van mules had escaped destruction and are now in the care of the Collection.

R747 BAC is thought to be the earliest Freelander on the road today

Life after Land Rover

Dick Elsy's career at Land Rover may have ended in 1999, but his engineering and corporate innovation and leadership career was far from over. He spent four years at Jaguar, during which time he transformed the S-Type saloon to the extent that Wolfgang Reitzle, who by then headed Ford's Premier Automotive Group, said "this is a car I can recommend to my friends".

At Jaguar he also had the job of introducing the all-aluminium bonded and riveted body technology which was an underdeveloped technology gifted to Jaguar by Ford. After perfecting the technology at Jaguar, the eventual coming together of Jaguar and Land Rover at Ford, and later under Tata, means this technology forms the backbone of all Land Rover products today.

In 2003 he became CEO of Torotrak Ltd which he ran until 2012, when he became CEO of the High Value Manufacturing Catapult. In parallel with the day job, he was Director of Birmingham Science City for four years, a non-executive director of the Henry Royce Institute between 2017 and 2020, and a Council Member of The Science and Technology Facilities Council. In 2020 he became non-executive Chairman of AB Dynamics.

Also in 2020, Dick became Chairman of Ventilator Challenge, an industry response to the UK Government's request for help in the rapid building of ventilators as the pandemic took hold in early 2020. It was the nation's most ambitious collaborative engineering project since the Second World War. Aerospace manufacturers, Formula One teams, digital experts and many others came together, aiming to build 20,000 ventilators.

Finally, Dick is far too modest to mention that he is also Fellow of the Royal Academy of Engineering, Fellow of the Institution of Mechanical Engineers, Fellow of the Institution of Engineering and Technology, holds an Honorary Doctorate from Cranfield University, is Honorary Professor at Strathclyde University, and has been awarded the Royal Academy of Engineering Silver Medal (for Freelander), the Royal Academy of Engineering President's Medal (for the extraordinary team effort that was Ventilator Challenge), and the Royal Aeronautical Society President's Medal (also for Ventilator Challenge). This latter award is very rare indeed, being last given in 2008 to the flight crew of a stricken aircraft. Oh, and he was made CBE in 2018.