BILL Blydenstein's talent for giving - among others - staid Vauxhall saloons an outstanding turn of speed has gained considerable acclaim. Blydenstein cars have enjoyed more than 130 outright wins in national and international races and rallies.

Blydenstein was born in Hengelo, Holland, in March 1929. His family moved to Oslo, Norway, when Bill was just a boy; his father taking heed of medical advice that the Norwegian climate would be better for his health. "There was no history of engineering in my family, so I cannot say I had any parental influence," Bill admits. "I learnt to drive on an old tractor and my father's 1936 90hp Chrysler 6 Cabriolet. When the Germans came during the Second World War it was hidden away in a barn where it quickly became covered in dust and dirt. Luckily, the German soldiers took one look at this ostensibly rotting banger and quickly passed by. With the war over, a good clean and a new battery were all that were needed to make it like new."

Anxious to gain professional status, Bill considered university, but his lack of first-class qualifications and the fierce competition for places precluded entry into one of the Norwegian colleges. "While I decided on where my future lay I took a machine shop course in Oslo," explains Bill. "Fortunately, my father happened to be in London on business and came to hear about the Aeronautical and Automobile College in Chelsea (a notable ex-student being Mike Hawthorn), where I eventually managed to secure a place."

Not the most academically-minded of men, Bill says he found Part I of the Royal Aeronautical Society course tough going because it was purely theoretical. In contrast, his practical aptitude was more suited to Part II; it included 10 weeks on jet engine design at Farnborough. With careful exam preparation, he passed. "In fact, I won the Baden-Powell Award for the Best Commonwealth Student," laughs Bill, "much to everyone's surprise - including my own! After all, I wasn't even from the Commonwealth!"

So ended five years of intensive study. If he was to remain in the UK, the next hurdle was to arrange for a work permit. He had been offered a job as a draughtsman/stressman with Sir George Godfrey and Partners of Feltham, but it wasn't until the job title was changed to 'Technical Assistant' - some eight months later - that the permit was granted. "I began work on air conditioning equipment and high-speed turbine compressor design, calculating stresses on gears and the design of oil pumps, all of which would be of considerable help to me in the future. In those days there were no computers so I began adopting a 'rule of thumb' approach to my stress analysis which cut potentially a week's work down to a day."

During his student days Bill's financial situation restricted him to riding
motorbikes. In 1965, the year he started work, Bill was able to buy his father’s
Borgward Isabella. He was also gaining an interest in motor sport, and at the
Daily Express-sponsored meeting at
Silverstone in April 1956 Bill watched
Reg Parnell outstrip the opposition in a
Borgward. Bill was determined to learn
what had made Parnell’s car so effective.
He called Borgward’s British concessions-
ialaire, Metcalfe and Mundy, who
suggested he contact Henry Meier of
the company’s service department.
Blydenstein managed to catch Meier at
the 1967 Motor Show in October. “Meier
was very enthusiastic and helped me a
good deal,” recalls Bill. “In February
the following year I took my standard
car down to Brands Hatch to measure its
performance. By the end of the day I
was lapping in 1min 25sec, with a
protesting and overheating engine.”
Bill then spent three or four hours
every night preparing the car. “It was
stripped down, checked, lightened and
rebuilt. I was very lucky in having a
friend, John Winter, to help me. When
the car was finished I took it back to
Brands where my lap times were down
to 1min 19sec. Then I went to Norway
on holiday. On my return through Germany
I bought some Isabella TS parts—special
inlet and exhaust manifolds and a
downdraught carburettor—which
increased power to some 75bhp. This
reduced my lap times still further to
1min 16.5sec.”
Resplendent in its olive green
coachwork, the Isabella’s first race was
the MG Car Club’s Sprint at Brands in
September 1958 where, much to his
surprise, Bill found himself competing
against another Borgward, which he
managed to beat by two seconds. “That
year I raced four times, winning my class
times and finishing second once.”
Bill reckons his white-water canoeing
having as he ground away metal inside
the head. Eventually, his efforts paid off
with an increase of 6-8bhp—all for the
cost of a few pence.
After a further four wins and two
seconds places, suddenly the engine’s
performance began to deteriorate. It
wasn’t until Bill began replacing the
pistons every five or six races that power
was kept at its peak, the car finishing
the season by winning the BARC Cibie
Cup.

With over 100,000 hard-driven miles
on her clock, Bill arranged with Metcalfe
and Mundy that for the 1961 season the
front and rear axles would be replaced.
“I am a rotten mechanic and I knew
Metcalfe’s could do the work in hours.
After all, I was still working an eight-
hour day at Godfrey’s.” He still found
time to modify the engine (“development
work is what I enjoy most”), chamfering
the cylinder block walls directly below
the inlet valves. By now the engine was
giving a healthy 84bhp at the wheels.
Bill says the most memorable event
of the year was the May meeting at Spa. “It
is my favourite circuit,” enthuses Bill.
In the Touring Car event the Isabella
beat off tough opposition from Volvos,
Rileys and Alfirms and came home 40
seconds ahead of the field at an average
race speed of 93mph. Bill finished the
1961 season third in the hard-fought
BRSCC Saloon Car Championship. “As
a direct result of the performance at
Spa I received a cheque for £300 from
the Borgward Managing Director and
got over to Bremen, where I spent ten
days on tuning engines in their service
department. The Borgward engineers
were amazed at the power recorded on
the dynamometer. I also developed three
stages of tune for Borgward engines,
arranging to have the machining done
by a Guildford engineering company,
the kits being marketed through
Metcalfe and Mundy.”
Blydenstein’s first link with the
legendary John Cooper came back in
1959 when, while reading reports of the
F1 championships, he learnt of the gear
and bearing failures which were plaguing
the top drivers; Moss was ruining the
bearings in his Calloti ’box while
Coopers had squeezed five forward gears
into a Citroën casing which was also
proving unreliable. Bill equated these
failures with overstraining and wrote to
Cooper offering his services. “It was

A rare shot of Chris Lawrence
at Spa, 1963, with Bill
Blydenstein and Vauxhall
behind

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still mid-season and John was very busy; it wasn’t until the Gold Cup meeting at Brands that we eventually talked,” recalls Bill. “Later, back in John’s office in Surbiton, I was able to inspect the broken gear teeth. Armed with all the figures I calculated that the root stress on each tooth was a huge 20 tons per square inch. It’s no wonder they failed. I then looked at the gearbox being designed by Owen Maddox and Cooper himself (a brilliant, intuitive designer) and offered suggestions to improve its reliability, including a low-pressure oil pump to lubricate the teeth.”

The following season Jack Brabham won five GP’s and the World Championship.

1960 was also the year Bill married his long-suffering girlfriend Frances-Mary. With the need for a greater income he put in a request to Godfrey’s for an increase of £3 to his £17 per week pay. The request was denied so Bill promptly quit and set up WB Blydenstein Ltd, a freelance design consultancy.

“Cylinder head gas flow became an increasing aspect of my work,” Bill remembers. “I recall meeting gas flow expert Harry Welsake and explaining my water flow technique to him. ‘Must be a very messy business with all that water about,’ said Welsake. I also took on transmission design work for – among others – the Australian FJ team and the Chequered Flag racing team.”

It was during this period that John Cooper began developing the idea of the Mini Cooper (JC loved the Mini’s handling and was convinced there was a market for a ‘hotter’ version). “We began testing a 1,100cc FJ-engined Mini, which developed around 70-80bhp, at Brands. I remember suggesting to John that the Mini Cooper ought to be 1,000cc to be competitive in European events.”

In 1962 Cooper contracted Bill to become a works driver, fourth in line to John Love, Tony Maggs and John Whitmore. “I was the old man of the team.” Even so, his was the first outright victory in a Mini Cooper, at Brussels in April. “In October we were at Silverstone doing trials in a prototype hydrolastic Mini at the same time that Paddy Hopkirk was testing a Healey 3000.”

Paddy asked John for a drive, (reputedly his first in a Mini) and within three laps was down to my times.”

However, Bill’s frustration at not having any say in car preparation began to show. He left to pursue his development business, designing and patenting a hydraulically operated eight-speed gearbox for racing. Sadly, the design was never tested.

In 1963 Bill began his legendary association with Vauxhall. On more than one occasion he’d come up against Chris Lawrence and his indecently fast Triumph-powered Morgans (“when they stayed together,” Bill laughs) during his Cooper days. One day in the paddock at Aintree, Lawrence was peering under the bonnet of a Vauxhall. “The cylinder head was off and I could see that there was a great similarity to my own Borgward, with the inlet valves set very close to the cylinder wall. I concluded that by adapting the same sculptured block idea this would increase power. I suggested the notion to Chris and I began spending around 90% of my time working on Vauxhalls, preparing a race car and a road car.”

Development of the race engine was restricted to cylinder head gas flow and engine assembly blueprinting, all of which brought power output up to around 75bhp. Suspension-wise, the ride height was lowered by 3in and Koni dampers fitted. During the first few races unreliability seemed to dog their chances, but at Spa later in the year (with power increased to 90bhp) the Vauxhall finished third overall with handling at least matching that of the opposition. However, lack of power was still the biggest handicap so the engine was increased to 1,548cc, which with camshaft and exhaust modifications boosted output to a respectable 103bhp, although this was still some 20bhp less than many of the works cars.

That year (1963) Bill and Frances-Mary moved to Therkfield, Hertfordshire, setting up Blydenstein Power Ltd to produce quality components such as fibre matrix cylinder heads and camshafts.

Bill working from a large garden shed!

More racing followed, this time in his sister-in-law’s modified Elan.

In 1965 Bill began racing Frances-Mary’s Mini. “The whole world seemed to be racing Minis, so we began developing tuning parts.” The Mini was arguably the fastest of its time, lapping Snetterton in 2min 6.8sec. Built in conjunction with John Aley (the well-known roll-over bar manufacturer) the little screwers weighed just 9.5cwt.

Using an overhead block and an ingenious American ‘weld and grind’ technique on the main bearing journals, overall size was brought back to 850cc. With a highly modified 997cc Cooper head and Blydenstein’s own camshaft, the engine developed 80-85bhp at 6,000-9,000rpm. Unfortunately, the considerable cost of racing became too expensive and the Mini was sold to the talented race driver Gerry Marshall (who was to drive for Bill later).

Bill’s first contacts with the Vauxhall Viva was in 1964, when Dutch rally champion Dries Jetten invited him over for a working holiday in Holland. But despite trying all his usual tuning tricks, Dries’ Group 2 Viva refused to give more than 70bhp. Undeterred, back in Therkfield, Bill began to develop a road-tuned HA Viva, and eventually his ‘lab model’ 1,280cc engine was producing a healthy 64bhp. The car was timed at 98mph with a 0-60mph sprint of 10 seconds. A feature in Vauxhall’s house magazine, followed by a letter in the Auto Express, resulted in an interview with Vauxhall’s Sales Director, Geoff Welby. “I explained that everyone was spoiling Ford and Mini, and that to develop a race-winning Viva would be good for my business as well as Vauxhall’s.”

Since, at the time, GM had a policy not to become directly involved in racing, the idea was to use Shaw and Kilburn as the sponsor because they were based in Luton – almost on Vauxhall’s doorstep.”

Although it was common knowledge that Vauxhall was developing a 2-litre engine, the first Blydenstein-prepared Shaw and Kilburn car was fitted with a 1,258cc engine which, with its monster 46IDA Weber carburettor, produced 95bhp - sufficient for Motor’s Roger Bell to reach 100mph along Snetterton’s Club Straight. “By this time, the team had expanded,” continues Bill, “and in 1968 we were joined by Gerry Johnstone, a very capable engineer who took over as workshop foreman and whose input was considerable. To satisfy the need for more space we moved operations to...”
The epreth where we set up Blydenstein Racing Ltd. Then came the 2-litre Vauxhall engine, which led to a 2.3 and 2.6-litre race engine. We won our class at the Osram Championship in 1970 and the following year winning theeward Trust Championship in the 3-litre Firenza sponsored by Thames V. (This car became well known later as 'Old Nail').

Vauxhall was considering a V8 version of their Ventora saloon using the Australian Holden-built engine. By this time Gerry Marshall was driving for Blydenstein and much of his strongest competition came from Mick Hill's 8-engined Capri. With help from Vauxhall's design studio, Blydenstein racing produced 'Big Bertha', the ramatic-looking Ventora-based super saloon (the entire body was widened to take the huge racing wheels and tyres). Much of the chassis and suspension design was done by top aerodynamicist, rank Costin. Powered by a 475bhp Repco V8 the car won three out of six races during 1974 until a brake caliper burned off at Silverstone, writing off the car and very nearly Gerry Marshall, too.

Dramatic as it might have been to see racing, it was certainly hot to handle. So 'Big Bertha' was smartly replaced by 'Baby Bertha' using a similar Repco engine but this time in a much-modified Firenza shell. 'BB' won the Tricentrol Super Saloon Championship in 1975 with 18 outright wins, repeating the record the following year with another 2 wins: the Shepreth-built 'Old Nail' won the Scottish Championship, driven by Bill Dryden.

1976 was also to prove a successful year with Bill preparing a Group 1 Magnum saloon, the car gaining a class win and third overall in the British Saloon Car Championship. BB had another victory in the Tricentrol Super Saloon Series. In 1977 DTV notched up an impressive second overall in the Spa 24-Hour race although, sadly, Bill says Vauxhall made little of this Group 1 success, perhaps because by this time DTV were beginning to concentrate their efforts on rallying.

By now, Bill's performance tuning business had become well established, offering a wide selection of parts for the domestic market. Meanwhile, with the introduction of the three-door hatchback Chevette, DTV began campaigning the 2300HS and, as the records show, between 1977 and 1983 there wasn't a year when the team did not achieve success. In 1981 they won the UK Manufacturers' Championship and were second overall in the British Open Championship two years later. "We would have won the Driver's Championship in 1981, too, had it not been for poor radio reception in the Circuit of Ireland Rally," recalls Bill sadly. "That was also the year Gerry Johnstone left and we were joined by Wayne Mitchell. Meanwhile, Frances-Mary had taken over as Team Manager, which involved planning everything in conjunction with DTV Rally Manager, Colin Francis." (1982 saw the amalgamation of DTV and Dealer Opel Team into GM Dealersport.)

With the demise of the contract with General Motors Dealersport in 1983, Blydenstein Racing signed an agreement with Nissan and in 1984 and '85 they promptly won the Autosport National Rally Championship. "1984 was the best commercial year for my company, because I was given the franchise worldwide for the Nissan 240RS and we sold 42 cars," says Bill. Then came a year with Honda Dealer Team Norway which resulted in a second place in the 1,600cc Group A Class in the 1986 British Open Rally Championship.

"There are several moments which stand out clearly in my memory," recalls Bill with great satisfaction. "1975 when Gerry Marshall dominated the saloon car race at the British GP; Tony Pond winning the Manx Rally in 1981 (we did a lot of development work that year at MIRA), and 1983 when, despite lack of funds, Russell Brookes won the Circuit of Ireland. Nowadays, I'm becoming more involved with Classic cars, doing more of what I want to do."