



CELEBRATING A CENTENARY

Laying down the foundation stones of industry today . . .

In 1826, before the age of the mass produced motor car, Absolom Harper, with his sons John and Edward, was making fenders and fire irons in Waddams Pool, Dudley. In 1879, John Harper's only daughter, Mary, married George Bean, who was an ambitious bank clerk, from Stamford, Lincolnshire. He had been working for the Birmingham Town Bank since 1874 and in 1875 was transferred to its Dudley branch where he met Mary Ann Harper. 9 years later, 1884, he left the bank to join his father-in-law's business. In 1901 he was listed as its principal shareholder and six years later the firm's name was changed to A. Harper, Sons & Bean, with George Bean, aged 52, its chairman.

By the 1890s the Black Country iron industry was in decline and with a workforce of 200 people by 1911, the company changed its manufacturing base by installing drop hammers to supply forgings to the rapidly expanding motor industry.

In 1913 production was transferred to Rolfe Street, Smethwick and the company exhibited its own manufacturing machine tools at the Machine Tool Show in London. A contract was gained from the Admiralty, and with the advent of the First World War George Bean was asked to manage a new National factory on the Waddams Pool site to produce shell cases.

George Bean also ran the National Fuse Factory which had been built at Tipton. After the War, George received a knighthood for his services to the war effort, and his only son John, known as Jack, was made a CBE.

When the war ended the Bean family decided to diversify. They would use the wartime factories to make cars and manufacture as much as possible in-house. Forgings coming from the Smethwick facility, chassis made at Tipton and then driven under their own power the short distance to Dudley for the bodies to be fitted.

Perry cars based in Tyseley, Birmingham had been manufacturing cars between 1914 – 1917 and decided not to resume production after the war, but to sell their jigs, tools and patterns. Beans bought a Perry car for evaluation and one month later, in January 1919 bought the equipment needed to produce the car, for £15,000. In March 1919 Beans announced that they would update the Perry and rename it the Bean with the intention of manufacturing it at the rate of ten thousand a year using the methods of Henry Ford. In May 1919 John (Jack) Harper Bean now aged 34, went to the United States to purchase the latest machines and tooling and in

November the 11.9 Bean was unveiled at the first post-war London Motor Show. A bare chassis and open two and four-seater tourers were on display, with prices of £425 and £450 respectively. Bean's chief designer, Harold (Harry) Radford had made some detail design changes to the Perry.



The Bean 11.9 two seater with dickie seat

The Bean retained the chassis, running gear and rear-wheel-only brakes, and was enhanced by a Smiths electric lighting and starting set.

The Tipton factory's electrically-powered two assembly lines pre-dated those of Morris by some 14 years. The chassis was moved forward on the production line by 12 inches a minute. The first Bean was registered in December 1919. It was a two-seater model. Production began in earnest in January 1920, with 100 units completed in that month. By July the figure had risen to 505, but despite the sophisticated moving production lines the cars' prices were rising because of wage increases, and the company had to cease trading in October 1920. It did restart in November 1921. The post-war boom collapsed at the end of 1920 and again Bean struggled to compete and Jack began to look at alternatives.

Its principal rival Morris, had a factory full of unsold cars. The Bullnose Morris Cowley was a more modern car than the Bean and Morris slashed the price by £100 to £425. Bean could not respond, giving Morris the chance to start moving ahead so that by 1925 he was Britain's leading car maker. Morris' approach to manufacture was the opposite of Bean's in that he mostly assembled components from suppliers – often then buying the suppliers whose parts were most needed on his production lines.

Jack Bean, although opposed by his father, succumbed to the blandishments of Charles Wardman whose company produced Vulcan cars and lorries. They approached Hubert (Jack) Whitcomb the founder-manager of the Motor Union Insurance Company and had launched Harper Bean Ltd in November 1919 with a flotation capital of £6million (about £250million today). They intended to reap the economies of scale that the Model T had pioneered by owning, like General Motors in America, several motor manufacturers. The combined production would be about 100,000 vehicles per year – 50,000 Beans, 25,000 Swifts and the same number of Vulcan lorries.

In 1920 they bought ABC Motors and 166,000 shares in Hadfields who supplied their steel. Whitcomb made and lost over £1million in the venture of which he was chairman while Jack Bean was the managing director. Sales were to be handled by the British Motor Trading Corporation another of Whitcomb's companies. However costs were not controlled and the company was caught out by the slump and



Bean 14 four seater tourer



Bean 14 rebuilt by D.Cooksey

Jack Bean resigned in November 1920. A year later A. Harper Sons & Bean returned to private ownership. The remainder of Harper Bean survived three more years before voluntary liquidation in 1925. Meanwhile the 11.9 sold well during 1922 with 80 to 100 being made per week with improvements being made to the clutch and for the 1923 season a Meadows-built four-speed gearbox, initially only on some models. The top speed was just about 50mph.

Unlike the 11.9 it had a detachable cylinder head and all the ancillaries were driven by the timing chain, causing the engine to whirr distinctively. The rear brakes were the same as those of the Perry and 11.9. But for £25 extra, Perrot front-wheel brakes could be added. While most British cars were designed purely for the home market, the model 14, larger and stronger than the 11.9, was designed with overseas markets in mind. The 14 did well in the Empire, especially Australia.

From 1924 Beans had also made lorries based on the 14hp engine in a 25cwt commercial chassis and over the next 3 years they would account for 60% of the firm's production and some three-quarters of them were destined for export, mainly to Australia. Some were bodied as ambulances, light buses or coaches.

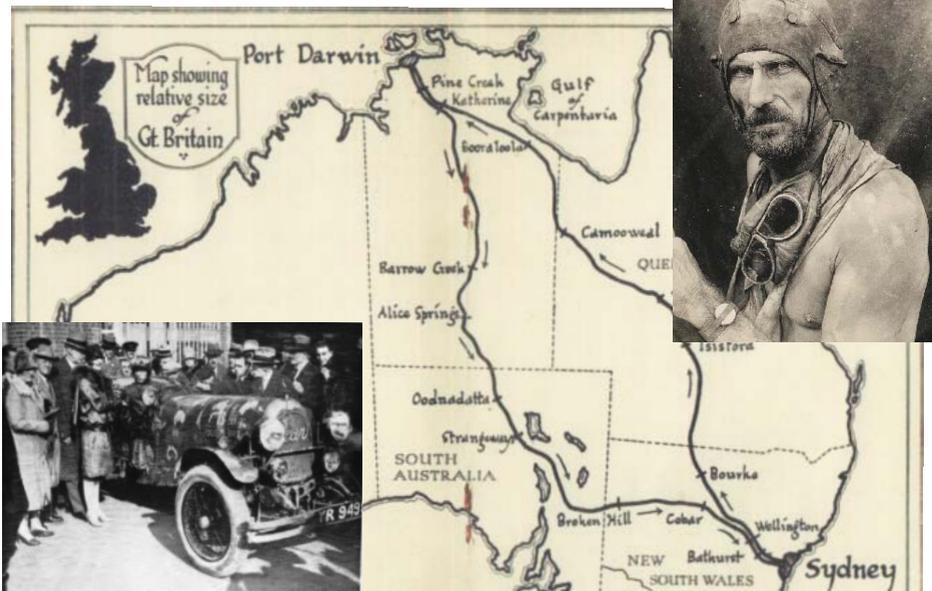
The Bean 12 was introduced in May 1924. It was a scaled down 14 with the engine dimensions of the 11.9, though in a larger chassis and heavier (1.1 tons). A year later the four-seater touring body was redesigned featuring identical front and rear doors, so that one jig did for both and front wheel brakes were standardised on the 12 and 14.

Unfortunately the price war with Morris was not being won by Bean and the depot manager in London's Regent Street showroom had regular phone calls from Dudley HQ urging him and the staff to secure sales and put the proceeds on the train to help meet the weekly wage bill! At this time Beans had £1.8million of debt. Luckily the manager, Ronald Maude, had the ear of the Royal Household, which led to the purchase of a 12 tourer in 1924 by the Duke of York (later George VI) and Prince Henry (later Duke of Gloucester) bought two 14s. Because of the financial woes, Hadfields, the steel suppliers to ABC Motors in the 1919 mergers took the business over, but itself struggled for 3 years to produce a good commercial model.

In 1927 the radiator badge was redesigned and the Bean lion, unkindly dubbed by some, the 'angushed griffin' started to roar again.

A new 18/50 model which used the 2.7 litre version of a Meadows overhead valve engine and gearbox was manufactured and the 14 became the Long 14, available with saloon or landaulette bodies. There was also the Short 14 which had the 14 engine in the 12 chassis to pep up performance, a combination that had been used to good effect in the single-seater car the company had used on hill-climbs in 1924-5. The Short 14 lasted into 1928 alongside the new 14/40 which was slightly smaller and noticeably faster than the 14, though the design was said to be a mixture of austere and extravagant. The car's maximum speed was 58mph and it cruised at an 'effortless' 50mph.

DARWIN TO MELBOURNE



In 1927 the Bean agent in Australia (Barlow Motors) decided to show the endurance of the Bean car with the publicity stunt - an ambitious car journey across Australia, from Darwin in the North to Melbourne in the South.

Barlow's commissioned Francis Edwin Birtles, an Australian adventurer, photographer, cyclist, and filmmaker, who had set many long-distance cycling and driving records.

He drove a modified Bean 14 car from Darwin to Melbourne with his co-driver Alec Barlow, and journalist friend Malcolm Ellis. They left Darwin at 4am on 23 October 1926 and completed the 3,100 mile journey in eight days and 13 hours. They had set a record one direction and returned to Darwin in the car dubbed 'Sundowner' by Birtles. Ellis recorded the amazing 6,200 mile journey in a diary which illustrated

the ingenuity they used to solve some of the problems that occurred on the trip.



ENGLAND TO AUSTRALIA

Following the success of the Australia crossing, Birtles was asked to make an attempt at becoming the first person to drive from England to Australia. He arrived at Bean's head office in Dudley in January 1927 and were given a prototype model designed by Kerr Thomas, called the Imperial Six which was intended for the colonies. The car stripped its crown wheel and pinion in India and the remainder of the journey abandoned. The indefatigable Birtles returned to London and again departed from Australia House In London on 19 October 1927. In an era when there were few roads and gasoline supplies sparse, the epic eight-month journey carried him across mountains, deserts and through tropical jungles and included a number of sea voyages – the last being from Singapore to Darwin. He travelled via Europe, Egypt, Persia (now Iran), India, Burma and Malaya.

On arrival in Darwin, his car was seized by customs officials demanding import duty, until direct intervention by the Prime Minister Stanley Bruce averted the situation. He continued south via Brisbane and Sydney to the official finishing point of the journey at the General Post Office on Elizabeth Street, Melbourne, arriving on 25 July 1928. The trip had taken 9 months and amounted to 16,000 road miles. On arrival he was promptly asked to move on by a policeman for obstructing traffic. Birtles escapades are described in his book *Battlefronts of Outback*(1955).

In 1929, the Bean car was presented to the Australian Government on condition that it be placed in the national museum. There was no museum at the time and the car disappeared for many years before being recovered in the 1960s. It was placed into the National Motor Museum in Adelaide in 1980 before moving to the National Historical Collection in the National Museum of Australia in Canberra in 2001.

In the UK, Hadfield-Bean showed the models 14/45 and 14/70 at the 1928 Motor Show. However, although efforts to remedy the previous manufacturing and design problems were proving successful, the damage to the firm's reputation was terminal.

During June 1927 a new 30cwt lorry model designed by Kerr Thomas and powered by the 14/40 engine was designed, but unfortunately it proved as unreliable and was replaced by the Empire model with a 3.6 litre engine and another try at using an overhead worm drive back axle. Only about 140 were built.

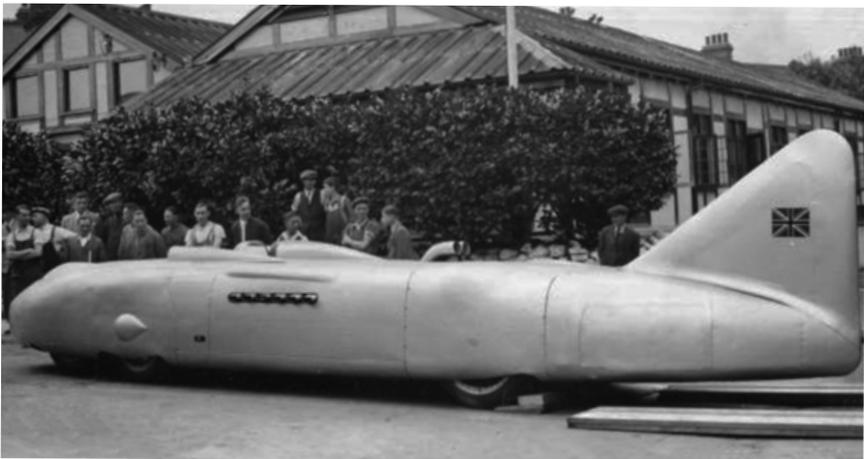
In March 1929 Cecil Bianchi, formerly chief engineer at Crossley Motors became the works manager. Under his guidance around 230, 20/25cwt lorries powered by a revised 2.3 litre Hadfield engine were built before he was asked to test-drive the company's products and prepare a report. Thus it was that car production ceased in the summer of 1929 though Bianchi detected a 'ray of hope' in the commercial vehicle line. In 1931 Hadfields applied to the High Court to place Bean Cars in receivership.

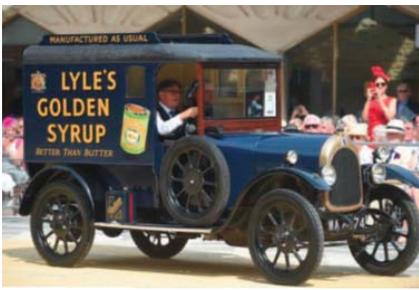
Sadly, the 'Henry Ford' manufacturing business model had not worked for Bean or Hadfield-Bean. Had they been too insular? Was the ambition to manufacture a total product just a step too far? Were they experienced enough in the early days of car manufacture to fulfil their ambitions?

They were good engineers! In 1933 Hadfields set up Beans Industries as a general engineering and foundry business, contributing £10,000 to the launch. At last profitability was achieved and in 1937 Hadfields withdrew and Beans Industries became a public company with Victor Riley as chairman, though before the end of the year Jack Bean returned as a director and soon after replaced Riley as chairman. The profitable drop-forging factory in Smethwick was floated off in 1936 as Smethwick Drop Forgings and was later acquired by Guest, Keen & Nettlefold (GKN).

THUNDERBOLT

In a mere six weeks in 1937 the Beans Industries constructed George Eyston's Thunderbolt Land Speed Record car, driven by twin R-type Rolls Royce engines it ultimately set the record at 357.5 mph in 1938.





During World War 2 the company produced lorry engines, parts for army trucks, and parts for aircraft.

In the early 1950s the business went from strength to strength. By this time, the foundry alone covered an area of around 297,000 square feet, and could produce five hundred tons of iron castings each week.

The foundry had a large number of up-to-date machines, used to manufacture automotive components and assemblies of all kinds. It had a sand handling plant, moulding machines and a traditional floor moulding section for jobbing work. Production included castings for numerous industries, and castings for vehicle manufacturers including flywheels, brake drums, manifolds, and gearboxes.

The cylinder section produced over 1,000 castings a week, and the general section produced high quality engineering castings from a few pounds up to five tons in weight.

They included machine tools, press castings, cylinders for marine oil coolers, steam jacketed tube moulds, tractor transmission cases and axle sleeves, diesel engine beds, columns, motor gearboxes, oil engine parts, hydraulic cushion cylinders etc.

The Engineering Division manufactured precision engineering components and assemblies for vehicle manufacturers, railway locomotive builders, tractor builders, and marine industries. Products included vehicle transmissions, axle assemblies, machined cylinder blocks, cylinder heads, crankcases, and gearboxes. The up-to-date machinery and plant ensured that work was produced to the highest standards, and to fine tolerances.

In 1956 the company was bought by Standard-Triumph to produce castings for their vehicles, including cylinders made from "Bilchrome", a special cylinder iron developed in-house.

Bean had 500,000 square feet of floor space, and had the most modern machine tools including capstan and turret lathes, Bullards and automatics, vertical turning and boring machines, centre lathes, and Fischer copying lathes. There were also Plano and duplex vertical and horizontal milling machines, multi-drillers and tappers, gear grinders, rotary surface grinders, gear shapers, and hobbing machines for straight bevel gears. Spiral bevel gears could be produced up to twenty one inches in diameter.

In 1960 the company became part of British Leyland, producing castings for their lorries and coaches. In 1975 it became known as Beans Engineering.



NORTHERN IRELAND TO INDIA

In 1976, to prove the point, Dick Sefton's 1928 14/40 travelled overland from Northern Ireland to India without a single problem until a broken gear selector delayed him in India, thus he missed his boat for the onward journey to Australia. Sefton had hoped to repeat the truly epic journey of Francis Birtles, who had accomplished the trip from Darwin to Melbourne via Sydney.

In 1988 Leyland group was privatised and broken-up by the Conservative Government, Beans Engineering was acquired by its management team, and after the buyout it acquired Reliant.

Things went on much as before until Reliant failed in 1995 and took Beans into receivership.

The Tipton factory was purchased by the German engineering group Eisenwerk Bruhl who made a large investment at the works, where 40,000 tons of cylinder blocks could be produced each year.

The business became known as Bruhl UK, but suffered from financial problems because the large investment had left the company in debt. For a second time the management team purchased the business which then became the company known as Ferrotech.

The factory had one of the most modern and efficient foundries in Europe and became a large supplier of castings to Rover. Unfortunately Rover went into administration in 2005, and Ferrotech failed to find a replacement customer.

As a result the story ends in September 2005 when Ferrotech closed its doors for the last time.

George Bean had a vision for an all-British motoring industry and almost made it happen. His drive, tenacity and vision in the manufacturing sector paved the way for the future of British engineering.

Research by Brian Ridout

Based on an article written by M. Jones and extracted from Jonathan Wood's Book 'The Bean'