



# Cliff Howard — the great Australian innovator

By Ian M. Johnston

Arthur Clifford Howard, or Cliff as he was commonly known, was born into a farming community in the Crookwell district of NSW, in 1893. His family later acquired a farm at Gilgandra and it was there that Howard spent his formative boyhood days. Interestingly, a comparison can be drawn between Cliff Howard's background and that of Henry Ford and Harry Ferguson. They each shared the common denominator of being farm boys growing up in the era of the draught horse, but prophesying that the future of agriculture lay in mechanisation.

## THE EARLY DAYS

As a youth, Howard tinkered with the design of a rotary hoe, powered by a motorcycle engine. This was indeed innovative thinking, as at that time the only rotary hoes in existence were in their early stages of development, largely by German agricultural engineering firms. It is questionable therefore if Howard would have been aware of these European experiments and accordingly credit must be given to him for his initiatives in designing an alternative method of cultivation.

During the 1914–18 war he moved to England where he gained invaluable engineering experience working as a military aircraft engine technician. Following the

Armistice he returned to Australia and continued the development of his rotary hoe.

In 1921 Howard purchased an American 60 hp Buda engine which he mounted on a custom built truck-type chassis. Onto the rear of the chassis he fitted a mammoth 4.6 metre rotary hoe. This formidable machine featured six travel speeds plus a three speed transmission for the rotary hoe. Under field tests the big machine performed outstandingly. In one pass it could convert a stubble field into a tilthy seed bed.

The success of his machine encouraged him in 1923 to register a company, which he named Austral Auto Cultivators Ltd and establish a factory at Moss Vale in the Southern Tablelands of NSW.

In addition to his engineering skills, Cliff Howard also exhibited considerable marketing expertise. Noting the proliferation of Fordson tractors throughout Australia, he seized upon the opportunity of designing a rotary hoe specifically for attaching behind the Fordson Model F. He had interpreted the market potential accurately and sales of his rotary hoes increased to the extent that in 1927 he relocated his plant to larger premises at Northmead, on the western outskirts of Sydney.

Clifford Howard was now well on his way to becoming one of the most respected names in the Australian agricultural machinery industry.

## EXPANSION

New products were developed. An excellent range of pedestrian (walk behind) rotary hoes was well received by orchardists and market gardeners. A vigorous export drive was commenced and in early 1928 Howard opened an office in England, to cater for British and European sales of Howard machines.

Also in that year, Howard designed a sugar cane harvester in addition to a new self propelled rotary hoe, designated the Howard 16. The latter was a well engineered three wheeled tractor powered by a Morris Commercial 16 hp petrol engine driving the front two wheels and equipped with a mid mounted 91 cm rotary hoe. Few examples of the Howard 16 remain, but remarkably there is one on display at the Fort Langley Agricultural Museum in British Columbia, Canada.

Towards the end of 1928 production of Fordson tractors came to an abrupt halt. This occurred during the period when the Fordson tractor plant was in the process of being transferred from Detroit (US) to Cork (Ireland). The drought of Fordson



The Howard 16 was introduced in 1928. It was powered by a Morris Commercial 16 hp petrol engine. Pictured is one of the few remaining examples and was exhibited at the 2006 Rusty Iron Rally. (Photo IMJ)



This 1936 Howard DH 22 is owned by Dudley and Diane McDermott of Tasmania. (Photo IMJ)



Pictured is a well restored example of a Howard 13 hp rotary hoe, powered by Howard's own water cooled V twin petrol engine. The unit is equipped with a three forward and one reverse speed gearbox. It is owned by Allan and Kim Dhu of Bunbury, WA. (Photo IMJ)



A Howard DH 22 mounted on pneumatic tyres in full flight, whilst at a tractor rally at Kukerin, WA. (Photo IMJ)

tractors lasted two years and resulted in a serious set-back for Howard, as his major market had been for rotary hoes and after-market creeper gears, tailored specifically for the Fordson tractor.

Undaunted, Howard pressed ahead with the design of a four wheeled tractor. The firm's name was changed to Howard Auto Cultivators Ltd. and capital raised for the construction of a foundry.

In 1930, amidst great fanfare, the all new Howard DH 22 tractor (named after his wife Daisy Howard) was released. It was powered by a modern four cylinder overhead valve 22 hp petrol engine, designed and built entirely at the Northmead plant.

In 1931 the new Howard DH 22 was exhibited at the British Royal Agricultural Show, along with a range of pedestrian cultivators. It is notable that the DH 22 was the only Australian tractor ever to be marketed in Britain.

In the meantime Howard's sugar cane

harvesters were enjoying excellent sales in South America, Africa, and in particular – Cuba. Also his pedestrian cultivators were selling strongly both in Australia and abroad.

Numerous variations of the DH 22 appeared during its remarkable 30 year life span (the only other tractor model to be produced over a period of 30 years was the John Deere Model D). A hydraulic lift for the rotary hoe attachment was introduced in 1935, and pneumatic tyres became an option in 1937. A four wheel drive industrial version, powered firstly by the four cylinder Howard engine and later models by an American imported Le Roi engine, was also introduced.

But the vast majority of Howard's tractors were in fact sold complete with the rotary hoe attachment and marketed as a single unit. They were well engineered, rugged in their construction and — despite being considered somewhat rough and

noisy to drive — proved extremely reliable. A number remain in service today.

### UNEXPECTED DEVELOPMENTS

An extraordinary set of legal circumstances saw Cliff Howard terminating his association with the Northmead company and establishing in 1938 a completely separate organisation in England, registered as Rotary Hoe Cultivators Ltd. This was subsequently renamed Rotary Hoes Ltd. and an additional company established — Platypus Tractor Co, both located in Essex. The latter firm produced an interesting range of lightweight Platypus crawlers, including a wide-track version descriptively named 'Bogmaster' designed exclusively for operating in swamp country.

It is not widely known that Rotary Hoes Ltd. acquired a controlling interest in the celebrated and historic John Fowler and Co (Leeds) Ltd in May 1945. Clifford

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A rarely seen four wheel drive industrial version of the DH 22. It is believed that only twenty of these unit were ever produced. Owned by Eric and Coral Howe of Tasmania. (Photo IMJ)



John Mullington's Howard Kelpie is an excellent example of this popular market garden tractor. Photographed at Timbertown, Wauchope, NSW. (Photo IMJ)



The Howard 2000 was introduced to the range in 1962 and was powered by a 12 hp single cylinder air cooled petrol engine. The rear implement was raised and lowered manually by the hand lever on the left side of the tractor. This particular unit competed in the world championship winning event Plough and be Counted 2, held at Cootamundra, NSW (Photo IMJ)



The Howard DH 226 succeeded the DH 22 in 1952. It was equipped with a Le Roi four cylinder petrol engine of 35 hp. The rotary hoe was raised and lowered hydraulically. This particular unit was demonstrated at Yass during the successful Plough and be Counted World Record Attempt for the greatest number of tractors ploughing at the one time in the one paddock. (Photo IMJ)

#### <49...CLASSIC TRACTORS

Howard became one of six directors and was appointed managing director. The following year the Thomas W. Ward Group extended an offer to purchase Fowler from Rotary Hoes Ltd. The deal, involving complex share transactions, was accepted and Wards took over Fowler in December 1946. This acquisition effectively combined the John Fowler Co with the Marshall Sons and Company Ltd conglomerates.

Whilst all the foregoing corporate intrigue was taking place in England, Howard Auto Cultivators back at Northmead had introduced a diminutive market

garden tractor named The Kelpie. It was powered by a single cylinder four stroke air cooled Howard engine developing 5.2 hp at 3,200 rpm.

Few Kelpie enthusiasts realised that the little unit was a precise copy of a tractor made in Stratford, Connecticut, by the Beaver Tractor Co Inc. The engine in the American Beaver was a Wisconsin AKN. Howard manufactured this engine in Australia during World War II for powering lighting plants for the Australian military forces in the Pacific. After the war, Howard continued with the manufacture of the engine, but under the Howard brand name. Owing to the simplicity of the Kel-

pie's design, those that remain today in the hands of tractor collectors, can generally be put into good working order for very little cost.

Clifford Howard returned to Australia in 1959 and immediately set about buying back his old Northmead firm.

In 1971 Cliff and Daisy Howard attended an investiture ceremony at Buckingham Palace, where Cliff was awarded a well deserved CBE by Queen Elizabeth II, in recognition of his services to agriculture.

Clifford Howard died a year later. He is remembered as a great Australian, commanding a prominent place in the history of farm mechanisation.



The Howard Platypus crawler was manufactured at Basildon, Essex, UK in the 1950s. This superb example was exhibited at the National Rally at Heyfield, Victoria. (Photo IMJ)

### IAN'S MYSTERY TRACTOR QUIZ

**Question:** Can you identify this tractor?

**Clue:** No use offering a clue. It wouldn't help.

**Degree of Difficult:** Absurdly difficult. Don't even bother. Go straight to the answer.

**Answer:** See page 56.

