

The Ronaldson-Tippett Super Drive

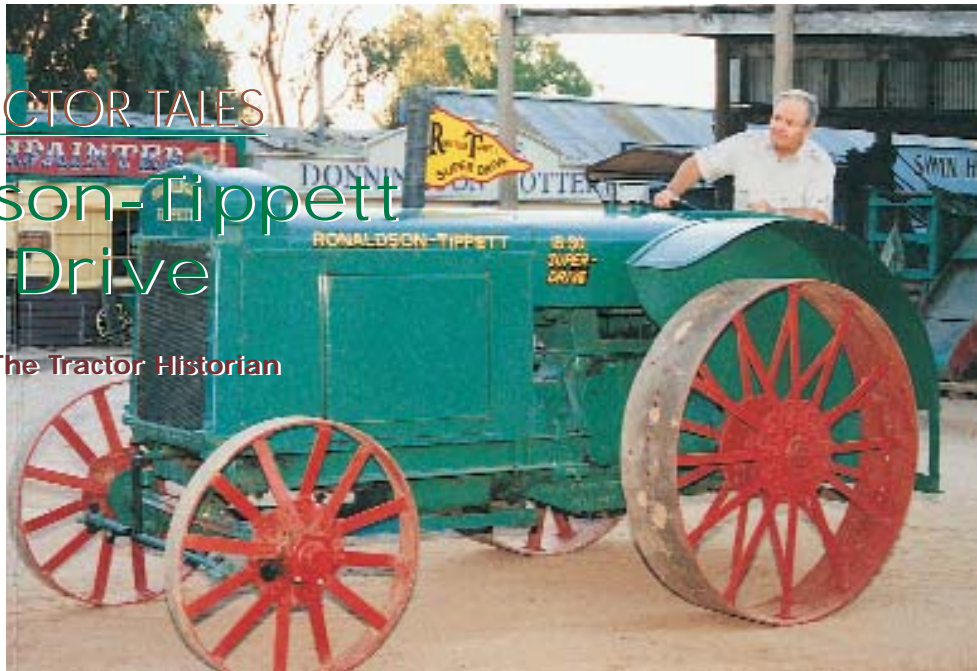
By Ian M. Johnston, The Tractor Historian

In 1903 David Ronaldson established a small engineering business in the central Victorian town of Ballarat. Within 12 months his brother Adam had entered the firm and the following year Jack Tippett, a local farmer with a mechanical aptitude, was invited to join the partnership. Few could have forecast that within two decades Ronaldson Bros. and Tippett (RB&T) would have become the largest manufacturer of stationery engines in the Southern Hemisphere!

THE AUSTRAL OIL TRACTOR

By 1910, with the firm's range of Austral oil engines well established and enjoying rapidly escalating sales, David Ronaldson noted that his main competitor — A.H. McDonald & Co. of Richmond, Victoria — had entered the fledgling tractor arena with a 20 hp Model EA. Although, at that time, the concept of tractors represented uncharted waters, Ronaldson decreed that his company should also involve itself in tractors and at least build a prototype.

Accordingly, in late 1910 the Austral Oil



Tractor was ready for field testing. The unit, weighing around five tons, was powered by the firm's own single cylinder 20 hp kerosene fuelled engine. Typical of early tractor design philosophy, the Austral was built along steam traction engine principles. The transmission, featuring

ABOVE: Pictured is a magnificently restored Ronaldson-Tippett Super Drive being operated by the author at the Pioneer Village, Swan Hill, Victoria. The raised radiator header tank indicates it is a post 1926 model. (Photo M. Daw).

exposed gears, and the big horizontal engine were mounted on an iron girder frame. The steering consisted of a crude windlass chain arrangement.

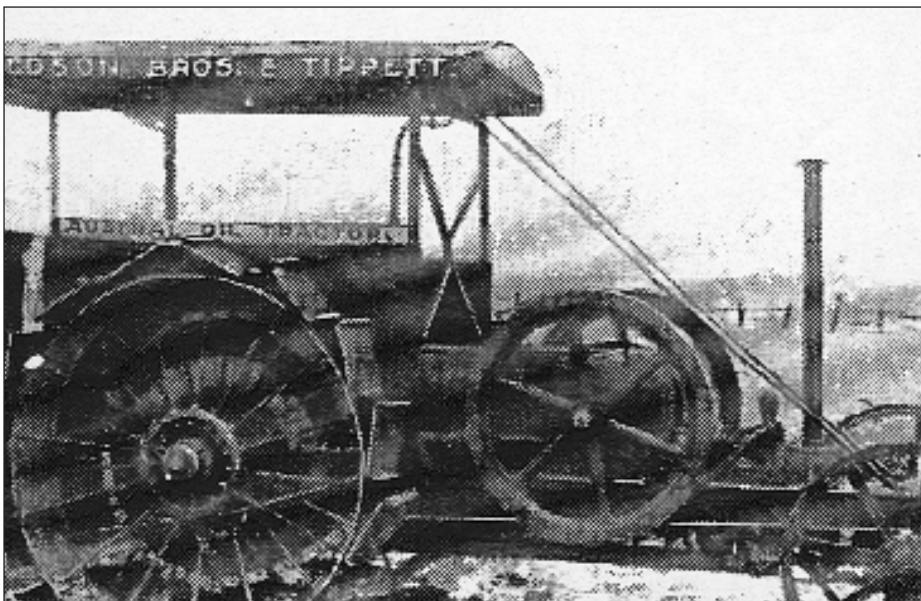
The Austral tractor did not proceed to the production stage. It was found that most of the energy produced by the engine was absorbed in merely propelling the five ton mass along a flat hard surface. The additional drawbar pull of a plough or wagon proved beyond its capabilities. The project was abandoned.

THE SUPER DRIVE

In 1918 The Illinois Silo and Tractor Co. of Bloomington, Illinois, changed its name to The Illinois Tractor Co. to coincide with the launch of its new model tractor — the Illinois Super Drive. The engine used was the well proven Climax four cylinder of 30 hp. Rebadged versions were sold in Canada as the Imperial Super Drive.

Particulars of the Super Drive came to the attention of RB&T. Following investigations into the American tractor's capabilities and the credentials of its manufacturer, an arrangement was entered into between the two firms whereby the Super Drive would be manufactured in Ballarat.

There were two major design changes introduced into the Ballarat version. It was decided to power the tractor with a Wisconsin four cylinder 30 hp engine on account of RB&T being Wisconsin agents in Victoria. It was further decided to mount the tractor on conventional lugged steel



An archival photo of the 1910 Ronaldson Bros & Tippett Austral Oil Tractor. It was powered by the firm's own 20 hp single cylinder engine. (I.M.J. archives).

wheels, rather than the complex sprung spoked variety produced at Bloomington.

The first of the Ronaldson-Tippett Super Drive tractors was released in 1924. It had largely been assembled from Bloomington sourced components, but progressively these were replaced in subsequent examples with Ballarat manufactured parts, until eventually the tractor was entirely Australian made — apart from the engine.

The Super Drive proved to be a strong and reliable tractor, ideally suited to the Australian wheat fields. The only negative feature in the early models was a tendency to overheating in the torrid summer months. In 1926 a larger capacity radiator was fitted, which overcame the problem.

A clever and innovative option was also introduced by the RB&T team which enabled the Super Drive to operate on crude oil. This was the type of fuel available to farmers for about half the cost of kerosene, used in the European semi diesel tractors, including Avance and Lanz.

THE TECHNICALITIES

The Ronaldson-Tippett Super Drive was undoubtedly one of the better tractor available in Australia during the 1920s. The Wisconsin engine was noted as being a



The rear view of a Super Drive at the Temora Rural Museum, NSW. The lever on the left is the hand clutch which, when eased forward, engages the drive but also acts on the governor control. The only other two controls are the gear selector and foot operated pulley brake. (Photo I.M.J.).

willing starter requiring only a couple of cranks of the handle. The operator mounted a broad wooden platform at the rear of the machine and could choose to either stand or sit to manipulate the controls. Interestingly, the hand clutch lever also controlled the engine throttle. As the clutch

was engaged — the engine revolutions automatically increased. This enabled an unskilled operator to avoid stalling the tractor when moving off under load. When the clutch was disengaged the engine was throttled back.

60 ▷



A Super Drive competing in the tractor pull competition at the Wheatlands Museum, Warracknabeal, Victoria. The weight on the front of the sled being pulled is progressively and automatically increased as the tractor hauls the load along a 100 metre course. The tractor capable of pulling the greatest weight the furthest distance is deemed to be the winner. (Author's comment : While I agree this popular classic tractor activity is fascinating to watch, I harbour some regret that these grand old tractors are forced to perform to an extent that would not have been tolerated by a caring owner when they were in regular active service. It is equivalent to flogging an old horse! Certainly not for any of my old faithfuls). (Photo I.M.J.)

<159...CLASSIC TRACTORS

The gearbox provided two forward and one reverse gear. But this could be augmented by removing an external cover from the near side of the transmission and swapping the position of the two pick-off gears. A range of pick-off gears could be purchased and according to the operator's

manual, no less than 48 gear speeds were achievable.

Remarkably, this could be doubled by fitting the optional smaller diameter rear wheels. Therefore this range of 96 forward gears (theoretical at any rate) would have to be a world record, even when compared with modern multi-gear tractors.



This advertisement appeared in rural newspapers in 1933. (I.M.J. archives).

A hazard for an operator, unfamiliar with the Super Drive, was an extraordinary idiosyncrasy of the braking system. If a gear was disengaged the brake would not operate!

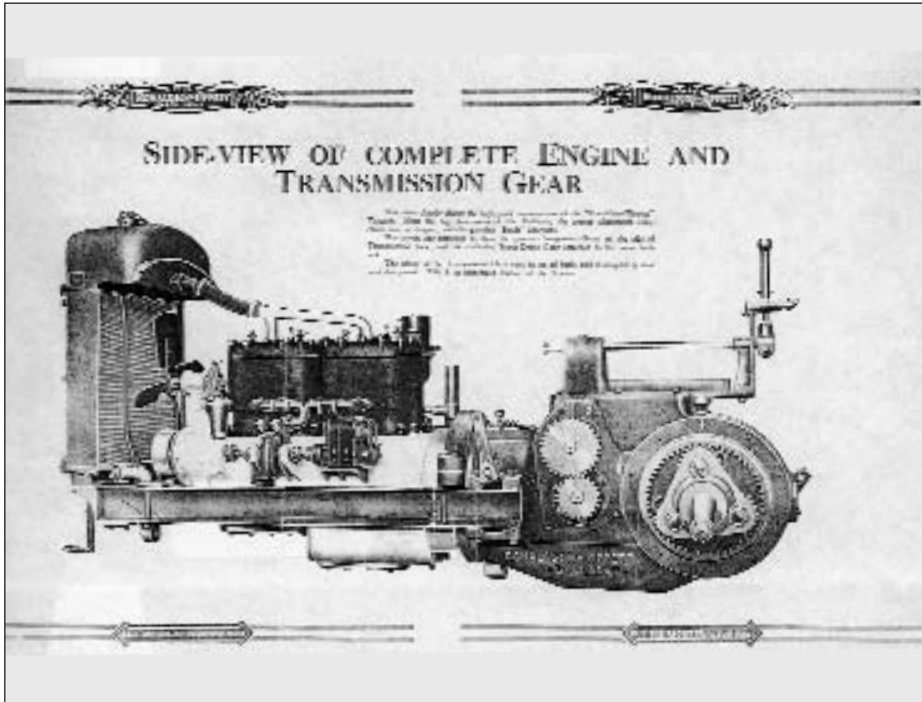
Accordingly, a dangerous situation existed when a gear was required to be changed when the tractor was negotiating a hill. In such circumstances it was necessary to apply the foot brake (there was no hand brake) with the hand clutch disengaged but with the gear still engaged.

Then presumably with the aid of an off-sider a block would be placed against the wheel, thus preventing the tractor from taking off, as the gear shift was moved into neutral prior to selecting another gear. Perhaps it is understandable that Super Drives were sold into the typically flat country associated with the Victorian wheat fields.

An imaginative marketing promotional scheme was staged in 1927 when a Ronaldson-Tippett Super Drive ploughed non stop for three weeks and turned a furrow the equivalent distance of 2,400 kilometres. No doubt this gave a stimulus to sales, but by 1927 there was some strong opposition out in the grain belts. The International Harvester McCormick 15-30, the Case Crossmount range, the John Deere D and the first of the Lanz Bulldogs were all making determined inroads into the developing market.

Despite the competition, Super Drive sales continued strongly until the effects of the great depression started to bite. Units that had been sold on a crop time-payment basis had to be repossessed, as cash strapped farmers failed to meet the instalments. This proved a major financial headache for RB&T for there was little demand for used tractors.

In an endeavour to overcome the problem the repossessed Super Drives were 're-manufactured' and provided with new seri-



This expanded side view of the Super Drive shows the advanced epicyclic final drive, the 'pick-off' gears (see text) and the four cylinder Wisconsin engine with its pair of two cylinders and the copper alloy crankcase. (I.M.J. archives).

al numbers. They were offered for sale as 'Factory Re-built Tractors'.

Pneumatic tyres were offered in 1937 as an alternative to the lugged steel wheels. Additionally, cumbersome gas producers were also introduced, which proved a blessing for Super Drive owners during the critical fuel shortages during World War II. Tractors so equipped obtained their gaseous fuel from waste wood or charcoal burnt within the producer.

Over a 14 year period approximately 450 Ronaldson-Tippett Super Drives were produced. Manufacture was terminated in 1938. The RB&T board considered it too costly to develop and re-tool for the production of a replacement tractor capable of competing with the sophisticated new designs pouring into Australia from the US and Europe.

There are only a few Super Drive examples remaining today. They are considered Australian heritage icons. Sadly some have been spirited overseas in recent times.

Readers are invited to visit the author's web site : <http://www.ozemail.com.au/~ianmjohnston>

IAN'S MYSTERY TRACTOR

QUESTION: This is the instrument panel of which classic tractor?

CLUE: It is American and dates back to the late 1950s..

DEGREE OF DIFFICULTY: Moderate to a REAL tractorman — oops — I mean tractorperson.

ANSWER: See page 80.

