

1. The AEC 8x8 "Government Roadtrain"

SPECIFICATIONS

AEC 6 Cylinder diesel,	8.85L, 97 (130hp)
Bore	115mm,
Stroke	142mm
Transmission	4 Speed manual , 3 Speed Transfer
Steering	Axle 1 and 4 in Opposite Directions
Suspension	Live Axles, Leaf Springs
Brakes	Biased to act on rear trailer, tractor less (axles 2 and 3 only)

OVERALL WIDTH 7 foot 6 inches

BOGIE WHEEL BASE

Front	5 feet
Rear	5 feet
Bogie Centres	9 feet
Wheel Base	
1st axle to fourth	14 feet

TRACK

1st & 4th axles	6 foot 4-1/2 inches
2nd & 3rd axles	6 foot 1-3/8 inches

Body Space	11 foot 2-1/2 inches
Min. Ground Clearance	11 inches
Height to top of Frame	5 foot 2-5/8 inches
Platform Height	4 foot 6 inches
Turning Circle	58 foot
Chassis Weight	
incl fuel, oil and water	7 tons 19 cwt.

LOAD CAPACITY 3 tons 16 cwt.

Weight unladen	8000kg?
Laden Bogie Weight	
Front	5 tons 17 cwt 2 qr.
Rear	5 tons 17 cwt
Total Laden Weight	11 tons 15 cwt
Tractive Effort with	
10-1/2 x 20 tyres	15000 lb
Fuel Tank Capacity	50 gallons

The 1930s were very turbulent times for Australia, the country was still reeling from the devastating loss of men in WW1, the economy was depressed and a second World War was imminent. Men were forced to earn a living as best they could. The rail was stretching further inland with the Ghan train having started its service into Alice Springs in 1929. Road transport had just started to establish itself as an effective mode of land transport and, in the more populated areas of Australia, had taken over from routes previously serviced by various forms of animal transport.

It was certainly an era of transition for the way things were done in the transport. The rail had been long established in most areas of Australia, trucks were reaching into areas that only ten years or twenty years before had not even been settled. The horse drawn buggy was still in use in many areas and camel teams and bullockies were still servicing the more remote regions of Australia.

At the time, operators of the railways, the camel strings, horse teams and bullockies believed that the road transport industry had finally reached its peak and would not create any further competition for the beast driven freight task.

That was until, on 19 May 1934, a very unusual piece of machinery arrived in Alice Springs and changed the face of outback transport.

The 'Government Roadtrain' as it became known throughout the outback, is reputed to be the first real motorised roadtrain in Australia in today's sense of the word. And, unlikely as it may seem, until this illustrious unit started to operate in the Northern Territory, the camel had all but cornered the freight task to outlying stations and communities in the harsh desert inland of Australia. In fact, this massive 130hp AEC eight wheeler tractor and its two Dyson self tracking trailers are directly credited with the eventual downfall of the 'Afghan' camel trains which had served the transportation needs of outback Australia so well for so long. The cameleers and their desert hardened beasts of burden had served the freight needs of the red centre for so long that they were considered to be an intrinsic and irreplaceable part of the outback landscape.

As the roadtrain began to travel the unmade roads and bush tracks of the inland no-one believed that it would really have much of an impact on the freight task. It was described by sun hardened ringers and cattlemen as being a passing *'typical pommy phase'* that would 'could' never handle the Australian bush. Public servants and scoffed at the idea and drovers on horseback watched in amazement as the unit snaked its way through remote scrublands.

The roadtrain was one of three manufactured by the Associated Equipment Company of England under instruction from the British Army. The British Overseas Mechanical Transport Committee designed the units for the specific purpose of opening up underdeveloped countries of the Commonwealth. As early as 1927 the British Government was convinced a second World War was imminent and commissioned the construction of the unit having identified the strategic advantage a heavy transport vehicle that could both carry large quantities of supplies and cope with the rigors of desert warfare would provide on the war front.

The result was an unusual six cylinder indirect injection diesel giant, reminiscent of the earlier clumsy steam powered road train, but far more practical in the bush. It had high ground clearance, a high mounted radiator located at the rear of the cab to prevent clogging by grass seeds and two Dyson self tracking trailers designed to follow in the tracks of the prime-mover. The self tracking concept had first been used by the British on horse drawn wagons in the Boar War.

The roadtrain project was initially funded by the British and South African Governments however, Australia and New Zealand and another twenty three counties of the British Commonwealth were later to contribute financially to its development and construction. There has been some dispute as to exactly how many of these have been built, and research over the past ten years has shown some interesting developments.

It has always been thought that there were three of these monsters of the bush built with the second more advanced unit, being sent to Australia for trialing under desert conditions. The other two units were said to be sent to Africa and USSR. This is almost correct. There are scattered records around the world and details that have been hazy in the past have now been clarified and we are able to put together a more accurate record of the AEC roadtrain at the Hall of Fame and how it came to be.

As these Overseas Tractor units were prototypes that never went into any real commercial production, there are few records and no other examples of this truck to inspect or compare that we know of. Ironically, of the 27 countries of the Commonwealth involved in the Overseas Tractor project, Australia was the only one to take up the concept of the roadtrain after World War Two. Although at the time, certainly no-one realised at the time it was a seed from which a great Australian industry would grow. At the time the units were constructed the British Empire was still reeling from the post World War One depression. Subsequently, the Overseas Tractor units were largely constructed from scrap metal; one unique feature being the turntables which are fashioned from old World War One gun turrets.

The roadtrain was a peculiar vehicle by the standards of the day. In modern terms, the truck was an 8 X 8. All wheels drove through single tyres but only two of the axles steered - from opposite ends of the truck - axle one and axle four pivoting on the centre tandem. Traction was applied to all eight wheels through four differentials. Odd though the configuration sounds, it soon proved itself capable of handling the contrasts and hardships of the Australia's inland deserts thanks to the men who tamed it.

The roadtrain's 24 axles were articulated and independently sprung enabling it to negotiate uneven terrain, sharp bends and snaking bush tracks without fear of over-turning. Its unusual braking system acted on the rear trailer and moved, with decreasing power, through each of the trailers to the prime-mover. Each tandem axle has the unusual configuration of only one brake drum being fitted and these are placed opposite each other. Although the unit was fitted with an electric starter, it also had provision for a crank handle start requiring the full efforts of two men to get it to crank over. Initially, some problems were also experienced with the cooling system and the aluminium cylinder heads but Aussie bush mechanical skills soon overcame most of them.

The roadtrain originally hauled two imported purpose built Dyson four axle self-tracking trailers but soon after its arrival, two locally built trailers were added to the roadtrain giving it a carrying capacity of 30 tons, although mostly, it carried weights far in excess of that.

The Dyson trailers were eight wheelers set up in a bogie-bogie configuration. Each bogie was fitted with a turntable connected to the other by a spring loaded linkage. This massive roadtrain was, what would be called in today's modern trucking terminology, a rigid-plus four.

The 'Government Roadtrain' was literally the life-blood of the remote and isolated communities it serviced in Central Australia. During the years of Japanese hostilities in the Top End, following the bombing of Darwin in 1942, many residents in the bush received the same quality and quantity of service, at the same rates, as they received prior to the onset of war. Without this service many would have had to walk away from their properties.

The term 'self-tracking' meant the trailers could follow exactly in the wheel tracks of the prime mover. This was essential as the roadtrain blazed its own roads in most instances, often towing and winching the trailers, one at a time, hundreds of miles over inhospitable terrain. So perfect was the self tracking mechanism on the AEC it could perform an 'L' turn in a tight area and run a near perfect circle on its own tracks. Unfortunately, this precision also meant that if you were unlucky enough to stake a front tyre, it was highly likely that you would stake several other tyres along the side of the roadtrain as well.

Following a few months of trials in the South Australian desert, the AEC roadtrain arrived in Alice Springs on 19 May 1934, under the supervision of Captain (later Brigadier) Dollery of the Australian Army's Motor Transport Division. He was accompanied by an English Captain of the same rank, two soldiers who had accompanied the truck on its long sea journey from London and a "bush cook". Territorian truck driver, Ewan Clough, participated in some of these tests and went on to become its first official driver.

The roadtrain's maiden journey to the interior, from Adelaide to Alice Springs, a distance of 1100 miles, took 19 long and arduous days. Captain Dollery travelled by car ahead of the truck to survey for the best route. Even so, the trip was wrought with many difficulties and the roadtrain had to use planks and matting to get across the shifting sand dunes and had to unhook continuously to get through gullies and ridges. It had to unhook and winch its trailers across the twisting and winding beds of the Finke and Hugh rivers some eleven times in twenty miles, each time, using a different tactical approach. It is believed, that it was Ewen Clough who showed the British the advantage of unhooking and towing or winching the trailers across individually. Previously, he said, they had just charged at anything that looked like it may cause problem.

After further testing, the Commonwealth of Australia purchased the vehicle from the British Overseas Mechanical Transport Committee and the Army handed it over to the Northern Territory Government. It then became the responsibility of the renowned Douglas David (DD) Smith, Resident Engineer of the Commonwealth Department of the Interior in Alice Springs and a new chapter in road transport opened.

In spite of the amazement (and amusement) the roadtrain initially created, it soon became a much welcomed site to the pioneers who lived and worked in what was then considered to be the trackless deserts and scrub wastelands of the Northern Territory. The roadtrain went on to travel an incredible 1,280,000 miles before it was sold off to a timber dealer in Pine Creek in 1946. Its top speed was 28 mph but it averaged around half of that most of the time.

The roadtrain's first real job was to take supplies and building materials from Alice Springs to Tennant Creek for the construction of Joe Kilgariff's new hotel. There was no road to speak of in those days, only a rough two-wheeled track that followed the Overland Telegraph Line. The AEC roadtrain was a full 18 inches wider than the standard vehicle of the day, having a gauge of nearly 8 feet. Literally thousands of steeply shaped anthills, some five to six feet high, had to be hand cleared off the winding track that the narrower trucks of the day had carved just wide enough to squeeze through.

The roadtrain went on to undertake many extraordinary feats in its time, some of them far greater than its British engineers had even anticipated. Its first job in the Top End was to haul two trailers of stud bulls from Katherine to Wave Hill Station, a distance of 300 miles. It took three weeks to complete. Carting cattle meant copious rolls of fencing wire, pickets, water and fodder had to be taken so the cattle could be unloaded and spelled. Water, was often weeks away. This could only be done after the driver and the off-sider had built the fence to keep them in! The next day, the fence had to be dismantled before being reloaded and the journey recommenced.

On another occasion, it hauled a 35 metre bore plant behind two trailers from Alice Springs to Katherine, Wave Hill and Borraloola with an incredible length of 57 metres - making it even longer than today's modern roadtrains. In 1942, the roadtrain again amazed many when it hauled two prefabricated railway carriages, weighing 45 tons, over the 620 miles of dirt track between Alice Springs and the Birdum Railhead south of Darwin. The railway carriages were for the Red Cross following the Japanese bombing of Darwin. There was no railway line between the Alice Springs railhead and Birdum in those days and road was the only hope of getting the carriages north in this time of crisis. The load, at 45 ton, was three times what the roadtrain was designed to carry and authorities were amazed. The roadtrain's last major job was to haul 126 bales of wool from McDonald Downs Station to the Alice Springs Railhead, a distance of approximately 250 miles. This was freight that was previously carted by 60 or more camels taking up to five times longer.

During its twelve years of operation for the Department of the Interior, many drivers were at various stages, given the roadtrain to operate. As was customary practice within the Department at the time, a co-driver was always assigned to the vehicle. The second driver, or off-sider as he was called, not only did his share of driving, but so rugged was the terrain they traversed that regular breakdowns were inevitable. Roadside repairs, such as changing axles, springs and replacing tyres, were simply a part of the normal day's operation. In most instances the truck had to be loaded and reloaded in areas where no assistance was available, machine or man. It was a tedious and backbreaking job for two men, but an impossible task for one.

Ewen Clough started on the roadtrain helping the Army with their testing of the machine. When the Overseas Tractor unit was handed over to the Department of the Interior, Ewan stayed with it. He drove it from 1934 to late 1936 and, without doubt, his bush skills and mechanical expertise were at least partly responsible for the roadtrain's eventual success. During the dry season (May to October) the roadtrain worked out of Katherine supplying remote communities and isolated cattle stations in the Victoria River, Wave Hill and Borraloola regions. With few roads to follow, it was simply a matter of getting the map out, drawing a line from origin to destination and heading off in the general direction. The roadtrain was then used to cart government supplies to the goldfields, cattle, windmills, boring equipment and supplies to remote cattle stations and building material to outlying communities in Central Australia during the wet season (November to April).

It was too wet to work in the Top End during this period of torrential downpours and tropical monsoons. The rain turned the country into a quagmire of muddy black soil plains and what few roads there were, became impassable very quickly. The wet season played havoc with the waterways of the north. Tracks that had been blazed just the year before were totally washed out and often the drivers and off-siders would have to walk for miles up and down the creeks looking for a suitable place to cross, only to have to do it again and again, sometimes up to six times a day. Driving was the easy part of the job. The drivers would have to dig with shovels, sometimes for days, to cut away the river banks to allow the prime-mover to get through. After this the truck was driven back and forth many times in order to compact the river bed.

When it was “a bit wet”, scores of barrow loads of dry soil or small rocks were tipped into the holes. The trailers were then winched through one at a time. If there were four trailers, often the road had to be repaired several times during the process as the weight of the trailers caused them to bog.

Sometimes, massive tree trunks and other river debris had to be sawn up and moved out of the way of where the best crossing had been identified. The truck was always loaded with a ready supply of dynamite in case an obstacle or road had to be blasted through, which, was often the case. It is said that often the drivers felt more like blowing up the truck instead of the obstacle but fortunately, this was never to be the case.

There were no facilities along the lonely tracks the government roadtrain followed. The drivers had to live off the land so a good sense of bushmanship was essential to the job. The drivers would have to camp enroute, sleeping in swags by the campfire under the stars, or under the truck if it was raining. Freezing winter nights were particularly hard. The roadtrain had no windscreen and its huge fan located behind the cab, would suck below freezing air through the cab and around the driver and his off-sider. It was no better in the sweltering heat of summer days when 40 degree hot winds swept through the cab burning the drivers faces and blistering their arms..

The engine did not like the cold weather either. The water in the radiator was prone to turning to ice in the below freezing nights of winter. Ewan Clough recalled that each night he would have to empty the water out of the radiator, all 18 gallons of it, and after his evening meal would spread his campfire coals under the engine. In the morning his breakfast campfire would heat (melt) the water for the radiator and the coals were then spread under the sump slowly warming it enough to encourage a cold start. If caught by an unexpected downpour or flooded river the trip was held up for weeks at a time. On one such trip from Katherine to Wave Hill, it took a full month to complete. Where-ever possible the driver would park the truck on a downhill grade or slope so it could be rolled and clutch started if the batteries refused to fire when it was all clear to continue onwards.

It generally took Ewen Clough around six months to complete his rounds. The roads and tracks he blazed made it a little easier and a little quicker for those that followed in his footsteps. His pay, for such an incredible workload, was the princely equivalent to \$15.00 per week. After Ewen Clough left the Department of the Interior many other operators were to have long spells driving the roadtrain, often experiencing many of the same problems Ewen had experienced during the AEC's inauguration period. There is no doubt that Ewen Clough perfected the art of getting ‘the thing’ through against seemingly insurmountable odds. Subsequent drivers were to have the benefit of his experience.

There is also no doubt, that the other “Government Roadtrain” drivers, men like Bill Goodsend, Roy Parker, Charlie Wright, Jack King and the legendary George Nichols, are among the very best of Australia's road transport pioneers. They would have never been acknowledged for the important roles they played in opening up the outback regions of Central and Northern Australia without the National Road transport Hall of Fame in Alice Springs. There is no doubt these men, and their sheer determination to get the load through, built the foundation stone from which the modern roadtrain industry was borne.

2. The Associated Equipment Company

The Associated Equipment Company (AEC) was started in 1912 as a wholly owned subsidiary of the London General Omnibus Company (LGO). However, like many other English manufacturers, the onset of WW1 had the AEC organisation come under direct control of the British Government for the wars duration. AEC went on to contribute significantly to the development of motor transport during WW1. AEC constructed the first moving track commercial vehicle assembly line in Europe and went on to supply some 10,000 war subsidy trucks.

In 1923, the company produced the first of what was considered a civilian goods model. The two ton 201 was powered with a 28 bhp petrol engine. In 1928, AEC entered into contractual arrangements with both Hardy Rail Motors Ltd and the English version of the Four Wheel Drive Motor Company (FWD) whereby AEC componentry would be used in all off-road or cross country models produced. Defence contracts and works were still a major part of AECs business when the development of an Overseas Tractor unit was first muted in 1929. A year later, in 1930, the AEC company released its first bonneted passenger model and its first diesel engine which, from then on, was optional for all later models.

In 1933 AEC was floated as a separate business and the company went public before producing several very unusual products including a low loader type 8x4 rigid called the Crocodile and the 8x8 Overseas Tractor unit as earlier designed by Hardy Motors Ltd. In 1941, as a result of WWII, full civilian production ceased and the AEC company turned its focus back to production of heavy duty military vehicles. The most renown of which, was the Matador gun truck. The Matador 10 ton 4x4, and a later 6x6, had been developed through the upgrade of an earlier model designed by Hardy Motors Ltd.

Just after wars end, in 1946, the Associated Equipment Company joined with their main competitor, Leyland Motors Ltd to form British United Tractors to build trolley buses. It went on to acquire several other truck manufacturers including Crossley, Maudslay, Charles H Roe and Park Royal Body Builders and acquired Transport Equipment (Thornycroft) in 1961. Many of the Leyland and AEC models were sent to Australia and for a time the big British built trucks were King of the Road in Australia. In 1968, the Leyland Motor Group merged with the British Motor Corp to form the British Leyland Motor Corp. Leyland and AEC models were gradually withdrawn from the market until 1979 when the plant was closed.

3. Other Companies Behind the Scenes

FWD: The British FWD Tractor Lorry Co had been established in 1918, after the end of WW1, due to large number of USA made FWDs left in Europe. Many of these were purchased, rebuilt and on sold for civilian use in various applications. In 1927, in collaboration with Hardy Motors (who also rebuilt WW1 FWDs for civilian use and used FWD components to manufacture railway vehicles and carriages) they entered into an agreement that would see some of the rebuilt and modified FWDs sold under the Hardy name. This was done in an attempt to avoid consumer confusion with the original American company also called FWD.

In 1929, the consortium built a six ton articulated 6x6 truck powered by a 78 bhp Dorman petrol engine. This truck, the R6T was trialed by the military later that same year.

While the Army was happy with the R6T trucks performance, it unfortunately did not meet the British Governments strict requirements of the time for inclusion of a greater percentage of British product. Subsequently, FWD Motors made an agreement with the Associated Equipment Company to use AEC engines and components in models aimed at the British market, particularly the military models. This was considered to be a very lucrative market with Europe already poised for a second World War. From that point on, the product was marketed and sold under the brand FWD - England.

In 1932, in order to quell increasing overheads, FWD relocated its full production to AEC's plant in Southall and its engineers worked closely with those at Hardy Motors Ltd in the design and development of later models. FWD-England engineers were consulted by both Hardy Motors and AEC in the drawing up of plans for the Overseas Tractor unit that was destined to come to Australia and become known as the Government Roadtrain.

HARDY MOTORS LIMITED: This company started business as Hardy Rail Motors Ltd just after WW1 and, as the name suggests, worked largely in the railway industry although it did construct some road equipment. Both divisions of the business used parts and componentry from surplus WWI USA built FWDs. In 1931, as the supply of ex-military FWDs dwindled, the business was restructured to further develop new vehicles and become Hardy Motors Ltd. In early 1932, the Associated Equipment Company became the sole shareholder. The Hardy name had earlier been used to sell FWD-England vehicles in an attempt by FWD to distance itself from the rebuilt English FWD trucks it had developed from second hand USA built FWDs.

In 1932 Hardy Motors was tasked, by AEC, to come up with a design for an Overseas Tractor Unit using the specifications as laid down by the British Overseas Mechanical Transport Committee. Having cut their teeth on railway trains, it is not at all surprising that Hardy's roadtrain design, like the earlier Leyland model, was reminiscent of the railway trains of the day. By 1938 the Associated Equipment Company had absorbed all Hardy's activities into its mainstream business and Hardy Motors Limited ceased operation.

RA DYSON & CO. : The trailers for the AEC roadtrain were constructed by RA Dyson and Company Limited of Liverpool and consisted of bodies mounted on two four wheel bogies with sliding turntables. The bogies were connected in such a manner that the trailers tracked directly behind the tractor or prime-mover. Both the truck and trailers were operated on 10.50 single tyres which ran at 38psi, which, under test, had proved sufficient for running through soft sand, dry river beds and soft soil without bogging.

LEYLAND MOTORS LIMITED: Leyland Motors Ltd started business building steam and petrol engined vehicles in 1897 and in the decades following went on to acquire many other heavy transport manufacturers including Scammell and Albion. In the early 1900s the company designed what they called a heavy duty land tractor. It was a cumbersome, solid wheeled, four trailer roadtrain powered by a petrol engine. The British were more focused on steam and the land tractor did not impress the market for another 20 years. With WWII pending, it was this design that the British Overseas Mechanical Transport Committee (BOMTC) based their specifications requirements for their new Overseas Tractor unit prototype. It is believed that this is the reason that Leyland, and not AEC, were awarded the initial BOMTC contract for the first truck that went to Africa despite huge differences in production costs.

By 1934 two thirds of all UK Council and Government fleets consisted of Leyland product and many goods carrying truck models also flooded the market. At one point, Leyland were the largest manufacturers of heavy transports in the world. In 1946 Leyland made a contractual arrangement with the Associated Equipment Company trolley bus division that saw Leyland manufactured buses fitted with AEC parts and components. However, it was not until 1962 that Leyland purchased full shares in the Associated Equipment Company.

AEC and Leyland both had big markets in Australia at that time and vied competitively for market share with little expectation that the big American marques would come to the fore and, that a heavy vehicle truck manufacturing in Europe was also sitting in wait for an opportunity to get their product into Australia. By 1975 Leyland were experiencing financial difficulties and the British Government acquired 95% control in an attempt to resurrect the business. Many of the renown old Leyland marques, AEC, Daimler and Guy, disappeared from the marketplace and, the Leyland marque itself went the same way just a few years later in 1979.

4. How Many where there?

There appears to be some confusion about just how many Overseas Tractor units were constructed and, depending on what parameters are taken in to the equation, the answer can be three or four. But, who knows, there may well have been another one of these units constructed at some stage and that information is yet to discovered or associated with this history. That is the wonderful thing about our road transport heritage; it is a living thing that continues to evolve as new information comes to light.

In 1927, at the British Colonial Office Conference, it was determined more cost effective to develop a land tractor / road train (and that it would be better to invest funds into this initiative), than to go to the high cost of installing railways in the colonies. The objective of the British Empire was to encourage settlement in the colonies. The Overseas Mechanical Directing Committee was tasked to make recommendations on its design. They decided there was nothing worthwhile on the market and proceeded, in consultation with industry, to draw up specifications for an eight wheel drive tractor based on the solid wheeled, petrol engined, four trailer unit Leyland had designed some years earlier.

Funded jointly by the British and South African Governments, the cost of this unit was £12,000. It was completed in December 1930 and tested extensively in the War Department grounds at Farnborough over an incredible 5,500 miles of laden and unladen tests. This unit was powered by a 539 cubic inch six cylinder petrol engine, a 3 speed gearbox with an auxiliary two speed, and had hydraulic brakes. On completion of the trial period the unit was shipped to Ghana (then Africa's Gold Coast) for trials before being put to work. It was shipped to Takoradi on 3 February 1933 and was operated from Ashanti primarily servicing the 240 mile stretch of dirt road between Kamusi and Tamale. On most trips, it proved necessary for the unit to be ferried across the Volta River at Yeji. The roadtrain carried loads of cement, pipes, timber and bags of salt one way, and backloaded with agricultural produce including millet, kolanuts and cocoa. The truck regularly carried loads of natives and livestock and at one stage was later trialed as a military troop carrier.

The African unit was declared a success and went on to cover 80,000 miles with complete success although, it was determined a compression ignition engine would be better. It was agreed by all parties that running costs could have been greatly reduced had an oil engine been installed and it is believed that an oil engine was fitted in later years. This roadtrain was sold to the Gold Coast Government for the sum of £2000 in 1934.

The second unit commissioned by the BOMTC, the one that came to Australia, had several modifications including an AEC diesel engine. This time it was fully built by AEC themselves using drawings developed by Hardy Motors with whom they had just struck up an affiliation. It is not sure why the BOMTC gave the building of this unit completely to AEC given the success of the Leyland unit in Africa but it is believed that costs were certainly a major consideration. AEC built this unit for just over £7000; a saving of £5000 on the Leyland model. Inclusion of AEC components, such as the AEC engine, kept the cost down.

The African model could climb slopes of 1 in 8 while the Australian unit could climb 1 in 6. The other main difference was that only the front and rear axles steered in the Australian model while all four did in the original Leyland prototype. The construction of the two trailers was again commissioned from RA Dyson and Company.

FWD-England expertise was incorporated into the design which, used two bogies from their Marshall cross country chassis on the truck with the first and last axle modified to be able to steer. The AEC Overseas Tractor was tested over 800 miles of trials at Farnborough before being shipped to Australia. It is recorded that, at that time, the unit's fuel consumption was 3.15 miles per gallon and the average speed, when laden, was 12.87 mph.

Interestingly, even though Australia and New Zealand joined Africa and Britain in funding this unit, along with contributions from 23 other countries of the Commonwealth, it too was originally destined to go to South Africa. The BOMTC was extremely impressed with the reports of the roadtrain's success in Africa and had sent film showing the vehicles capabilities to many other countries including Rhodesia, Swaziland, Tanganyika, Mauritius and, the Government of India. India had been told the unit could be demonstrated, and possibly stay there, on its way back from demonstration in Australia if funds permitted.

The Government of Australia had earlier committed to paying the sum of £1000 a year for two years to the BOMTC and this was the basis on which the Committee, decided at the last minute, to test the vehicle under Australian conditions rather than send it to India or Africa. It was sent to Australia in early 1934, finally arriving in Alice Springs on 19 May 1934. And, there it stayed after it was sold to the Australian Government for £2000 later that same year. The Commonwealth of Australia then handed the unit to the Department of the Interior in Alice Springs for use in its outback regions.

The world sunk into a major depression in the years immediately prior to the onset of WWII and many British Government projects were halted. The BOMTC, under direction from the King of England, decided that, if production of the roadtrain was to continue, it would need to be from the private sector. One of the biggest hurdles the BOMTC cited, was growing unrest from the Railways who insisted it would be a rival not an asset. However, work on a third prototype was well advanced, and the Associated Equipment Company decided to go ahead and manufacture another three units after receiving firm orders for two from Arcos Trading, the London buying house for the USSR and one unit from the Crown Agents for Tanganyika Territory (now an African republic but then a member of the British Commonwealth).

It is believed the third and fourth Overseas Tractor units, also diesels, were sent to the USSR and after trailing were used to haul from Kirov to the Urals during World War Two carrying heavy tools and equipment. These two units both had been exported to the USSR in 1935 and could carry a gross weight of 30 ton. The units, like their Australian counterpart, were eight wheeled and oil engined but came with three purpose built RA Dyson trailers, a hopper for grain, a hand operated side-tipper and a 2,500 gallon tanker. It is not known with any certainty if a unit was sent to Tanganyika Territory.

Never-the-less, it is very unlikely that any of the Overseas Tractor units sent to Africa and USSR are still in existence. We are fortunate in Australia, that through a series of events, we were able to preserve ours.

5. The AEC Nearly Didn't Make it

This is a copy of a summary of the eighth, ninth and tenth meetings of the Overseas Mechanical Council. At this stage, the first Leyland built unit had already been dispatched to South Africa and the second unit, an AEC, had been built and was just beginning to undergo its evaluation process.

28 July 1933 - Farnborough

It is in this summary, at the eighth meeting of the BOMTC that the Council is made aware that the Commonwealth of Australia had just committed funds, £1000 per year for two years, to enable the BOMTC to continue developing the Overseas Tractor unit.

3 August 1933 - Dominions Office

At this meeting, the ninth, it was discovered that His Majesty's Government in Great Britain had decided that further development of Overseas Tractor unit be left to the motor industry and determined that no further provision of funds be provided by his Government.

Mr. F.L McDougal, who attended the meeting on behalf of the Government of Australia, said he was most anxious that the testing of the second unit (the AEC that came to Australia) should be carried on to completion.

The meeting determined it still had enough funds to meet the cost of sending the AEC Overseas Tractor to Australia for demonstration and, if funds permitted, the unit would then be sent to India on its return to England on its way home from Australia.

10 November 1933 - Dominions Office

It was agreed by the Council to send the AEC to Australia if Australia agreed that the financial contribution it had earlier promised be made. The agreement came with a guarantee from the Council that it would definitely be sent to Australia "for demonstration". It was still envisaged at that stage that the unit would be taken to India after trialing in Australia.

6. The Long Road Journey to Alice Springs

In 1933, Captain EM Dollery, the Chief Inspector of Mechanical Transport for the Defence Department in Australia was based in Melbourne. He was in charge of development of motor transport for the Australian Army and had, over the years, become well recognised nationally, as a foremost authority on all matters road transport. It was to him the Australian Government turned after the AEC roadtrain had arrived in Australia following its long sea journey from England.

Two cockney driver/mechanics, an English Captain named EC Roscoe (RASC), and a 'bush cook' from Adelaide made the long and arduous trip from Melbourne to Alice Springs in early 1934 with Captain Dollery.

" We tracked over trackless wastes of sandhills. Some days we only progressed two or three miles. We drove a car ahead to reconnoiter the most practicable routes and we usually had to make our own tracks to consolidate the sand, then we winched the trailers over one by one. When we reached the Hugh River we had to cross it eleven times in twenty two miles, each crossing involving a different tactic "

The roadtrain was charged at sand dunes and if enough momentum was gained to get it over the top, the speed was used to rush another dune. Tree boughs and limbs, stumps and anthills had to be cut away and dug out to make a track through the mulga. This was a new era in road transportation in Australia and the Outback was opening up like never before thanks to the advancements of road transport generally. Brigadier Dollery reported that the unit was;

"a fine piece of automotive engineering and a credit to British designers and constructors. Future performances will be watched with interest by the Defence authorities."

"This was a completely new development in motor transport and all the new innovations were novel to us. It was the first time too we ever had a vehicle driven on all eight wheels, with a braking system that acted on the rear trailer first and so on back down the trailers to the prime-mover itself. But of course, the most striking part of its design, in regard to Australian conditions, was its ability to negotiate sharp turns."

The men, for the most part, slept out under the stars and for most of the way lived off the land. The cook was a Mr Greenwood, employed from Adelaide who served up many bush 'delicacies' that were foreign not only to the Englishmen, but the Army Captain from Melbourne.

" The cook was a good bushman and shot plenty of game but none of us cared for it much. I never liked kangaroo much but here in the dust and sand I liked it even less. But there wasn't much grumbling about the cooking, we had plenty else to grumble about"

Dollery reported seeing "the most amazing sight" when millions of birds came to every bore they drew water from. "They'd flock to us until the sky was dark with them and then roost on the bore, on the stay wires, on the troughs, on our vehicles, everywhere." Once the water began to flow they'd swoop down on it pushing the little ones under and drowning them. Birds were not the only thing to flock to the roadtrain. It attracted a large amount of attention along the way."

"We also saw a surprising number of people considering there was such a tiny population scattered over this vast land. Whenever we stopped people gathered to inspect the vehicle and question us about its performance."

The group arrived in Alice Springs on the 19 May 1934, just three weeks after leaving Adelaide some 1100 miles south. The whole town turned out to have a look at the AEC roadtrain including the Afghan, Pakistani and Indian cameleers who did so with the sad knowledge that this “*thing*”, the unimaginable, a train that didn’t need a track, signaled the end of the camels domination of the freight task in the inhospitable Central Australian deserts. For a time the camels picked up work in the less lucrative areas but it was just a matter of time before they were made permanently redundant.

The First Commercial Trip : As remembered by Captain Dollery

“At the Alice the trailers were loaded with timber and corrugated iron for the first building to be (officially) erected in Tennant Creek. It was, not unexpectedly, a pub.

The team set off again, following the unmade road north, adjacent to the telegraph line. In this part of the country they met a different hazard – anthills. Because their wheel base was much wider than any vehicle that had passed this way, their wheels straddled the track and many concrete hard anthills had to be chopped down. When we got to Tennant Creek, we really saw the outback of Australia. The miners were living in holes in the ground, a few feet deep with a tent pegged out over the top. They had rough beds of Hessian, and boxes for tables. The settlement had the appearance of an American wild west town in the days of Jesse James. Bearded miners dressed in moleskins and wide brimmed hats, many carrying firearms, slouched over to us and surrounded the vehicles.

EC Roscoe, the Englishman said “ I don’t like the look of this much” and the rest of us didn’t either, so we got their pub unloaded pretty quick and moved five miles further north before we camped for the night.”

7. Ewen Clough

Ewan Clough became the first driver of the AEC ‘Government Roadtrain’ for the Department of the Interior hauling loads to stations as distant as Wave Hill and Borroloola. At the time, the Afghan and Pakistani cameleers charged a rate of two shillings and sixpence per ton per mile to move freight. The efficiency and carrying capacity of the AEC and its two (or sometimes four) trailers meant the Department of the Interior could drop the rate to just six and a half pence per ton per mile. This rate was also less than half the rate the railways charged at the time.

“ It was a great vehicle, although, subsequent drivers had difficulties with it. The engine had aluminium heads and these gave trouble.”

If the roadtrain bogged in the sand, Ewan would have to disconnect the trailers, put planks or mats under the wheels of the truck in order to drive it out, and then, make a new track to get the trailers through. He would construct the new track by driving the truck back and forth over the same stretch of land continuously to solidify the soil and break down anthills and growth. He would then have to cable the trailers through individually. It was not unusual to spend a couple of days doing this just to travel on a couple of miles or so and do it again. Ewan Clough was often away from his home in Alice Springs for up to six months at a time.

“The first trip to Wave Hill, a distance of 287 miles, took three weeks. Tracks had disappeared in many places and river banks were cut away where old crossings had been. When we took that first load of stud bulls to Wave Hill the Manager said they were in better condition than when they started the trip.”

This trip took five days. Ewan and his offsider had to carry fencing wire, pickets, fuel and fodder. The trip was too long for the cattle not to be spelled so regular stops were scheduled. They would pull up in the middle of the bush when there was still enough daylight and build a temporary stock yard so that the bulls could be spelled, watered and fed. In the morning, the cattle would be reloaded and then they’d have to dismantle and reload the temporary yards before continuing their journey. Carting cattle has always been considered a labor intensive sector of industry but in those days, it was far more physical than the drivers of today’s modern rigs can imagine.

“it was just how it was done, you didn’t question it - you just did it”

Ewan Clough said the roadtrain often carried double the weight that it was originally intended to and recalled one such occasion;

It was a load of 24 tons but I know we must have hauled more than that when we took a water boring plant from Alice Springs to the Murranji, to a spot on the lonely stock route 550 miles north of Alice Springs.”

Ewan Clough drove the roadtrain from October 1934 to November 1936. He cooked by campfire and slept under the stars, or under the truck if it was raining. Ewan was paid the princely equivalent of \$15.00 per week. He passed away in 1977 and has been inducted into the prestigious Shell Rimula Wall of Fame in Alice Springs.

8. The Drivers

1934 – 1936

Bentley Greenwood / Ewan Clough

1936 – 1937

Ewan Clough / Roy Parker

1937

Bill Goodsell / Frank Morton

1937-1939

Ted Carlton / Frank Morton

1939 – 1944

George Nichols / Shorty Fulton

1944

Jack King / Pudden Pederson

1944 – 1945

Jack King / Charlie Wright

The Department of the Interior paid seven pounds ten to the drivers of the AEC roadtrain. The off-siders received slightly less at six pounds ten. By comparison, the same department paid seven pounds to the driver of a Mammoth Major and slightly less to drivers of smaller trucks in the fleet.

Mechanics that worked on the roadtrain include Texas Lechleitner, who was the foreman in the fitting and turning workshop and Lionel Whittaker, who was the Departments foreman in the plant and machinery workshop.

The Officer in Charge of Transport Operations at the time was the renown Douglas David Smith, known widely as simply D D. He had started work with the Department in 1927 and was District Engineer by the time he retired in 1957.

Well known Central Australian transport identity, Mr James (Jim) McConville was his assistant for many years. He was responsible for improvements and modifications to the Departments large fleet of trucks including the AEC roadtrain.

9. The Road Rail Service

The Road Rail Service in Alice Springs was a joint initiative of the Australian Governments Department of Transport and Works and the Commonwealth Railways Department. Administered by DD Smith and the Department of the Interior the idea was that an efficient and effective land transport service, utilising both road and rail, would encourage settlement in the remote areas of the Territory. The service started in 1938 soon after the coastal shipping service from Darwin down the Victoria River ceased operations. At the time, the only other reliable freight service in the area was Bert Drew and his donkey teams. Bert was renown for his reliability and dedication to the job, and his willingness to cross crocodile infested waters, but the service was agonizingly slow by comparison, and in an increasingly competitive environment, road transport was the obvious choice.

The idea was that freight would come into the Alice Springs or Birdum railheads by train, and then be transported by road to outlying stations and communities. The Department of the Interior offered a discounted rate for goods that were for new developments. The pending arrival of WWII made the service even more essential, as was the construction of a decent road for trucks to operate on. Although, at that time, no-one gave more than a passing thought to the Japanese entering the war and placing Darwin under threat.

Initially the AEC roadtrain took most of the freight between Alice Springs and Katherine or hauled down from Darwin to Katherine and two smaller trucks operated out of Katherine hauling to cattle stations and remote communities. These were an AEC Monarch driven by Keith Henderson and an AEC Matador driven by Ted Stiles (who later went on to purchase the first B Model Mack in the Northern Territory for his business Outback Transport). The Katherine service ceased in 1940 and after that the Road Rail Service operated solely out of Alice Springs for the duration of the war years.

10. Private Ownership, a scrapyard and then rebirth

In 1946 the Department of the Interior decided to sell the AEC Government Roadtrain. It was sold at auction to a company called Territory Timber who used primarily to haul timber in the Edith River area. It is believed that it also did some work for a gold mining operation in Pine Creek until finally, about ten years later, it suffered a major engine failure. The roadtrain was then sold as scrap metal and ended up in the hands of Stan Kennon who owned and operated a scrapyard in Winnellie (near Darwin). There it sat deteriorating in his back yard, rusting in the salt air for some thirty wet seasons before being rescued. Stan Kennon knew its historical significance but lacked the where-with-all to do anything about it. Fortunately, he had the foresight not to cut the vehicle up for scrap.

Renown Central Australian camel breeder, racer and tour operator, Noel Fullarton, recognised the AEC roadtrain on a trip to Darwin 1973 and later purchased it, with the assistance of Jim Cooper AM, modern day powertrain pioneer. When the AEC was finally lifted by crane from its would-be grave it was in a sad and sorry state of disrepair. The bodywork was rusting, the woodwork termite ridden and decaying and the wheels missing. However, most of the mechanical equipment and the chassis and frame were all still in position and in a repairable condition and Noel decided it was worth the effort to save it.

Noel Fullarton bought the “old girl” for \$1500 and says it was surrounded by jungle complete with a gum tree growing up through the trailer on the back. He believed at the time it was the only one of its kind in the world and research to date indicates he was right. It is largely thanks to Noel Fullarton’s foresight and vision that the old AEC Government Roadtrain still exists today. Noel Fullarton was amazed when he first saw the old roadtrain laying in the long grass in Kennon’s overgrown scrapyards in Darwin.

“It was barely recognisable” he said, “I just knew I had to do what I could to save it. I didn’t have too much cash but Jim Cooper from Gulf Transport was quick to help me out with various things”.

Noel Fullarton took the old roadtrain back to Alice Springs for a few years while he decided what to do with it. One thing in the AECs favour was that the dry Central Australian air halted the march of rust throughout the truck. It could not have survived too many more monsoonal downpours in Darwin. After extensive lobbying Noel convinced the Northern Territory Government of the units historical significance to both the road transport industry and the development of the Northern Territory. In 1980 he sold the truck back to the Government and it was returned to Darwin to the old Department of Transport and Works plant workshop at the ‘two and a half mile’ where its staff took on the restoration project on behalf of NT Museum and Art Galleries.

On arrival back in Darwin the roadtrain was parked, unceremoniously, in front of the plant workshop where it sat for a few months while its future was determined. It was decided that Transport and Works would undertake the restoration on behalf of the NT Department of Museums and Art Galleries. Tom Bertenshaw was the Government’s Foreman in the Plant Section of the workshops at the time and took the project under his wing. He recalled;

“ It sat there for ages and eventually I decided we better do something about it and we pulled it into the workshops. It wasn’t a full on project it was something we fit in around our other jobs. We couldn’t get the bits for the original motor so we swapped engines, we used a later model AEC bus motor in the end and had to do a few changes to make it fit.”

“ We had to make a gear for the rear diff and get a few bits machined. Basically, it was stripped down the chassis and, start from the ground up. She was in pretty bad condition.”

The restoration took about two years to complete with many of the apprentices and mechanics of the time playing roles in its repairs but there is no doubt that Tom played the major role in ensuring the job was completed. It is estimated the restoration cost in the vicinity of \$70,000 before it was completed.

One of the conditions Noel Fullarton gave the Northern Territory Government when he sold them the roadtrain was that it be displayed in Alice Springs and eventually it returned. The Department of Transport and Works had evolved over the years from the Department of the Interior operated in Alice Springs in two tents by DD Smith, so in many ways, the old roadtrain had come home. On return to Alice Springs the unit was displayed in front of The Residency in the CBD area for a few years before being relocated to the Central Australia Aviation Museum to be displayed with the Stuart Auto Collection. That museum needed the space for aircraft and, when the steering committee of the National Road Transport Hall of Fame applied for land on which to build a truck museum, one of the things the Northern Territory Government stipulated was that the museum house the AEC and the Stuart Auto Collection.

The vehicles were initially placed in the National Road Transport Hall of Fame on a five year loan agreement until, in 2000, at the fifth anniversary celebrations for the museum, the then NT Minister For Transport, the Hon. Peter Adamson MLA, presented ownership of the AEC roadtrain and the Stuart Auto Car Collection to a very excited Road Transport Historical Society committee. The AEC roadtrain, indisputably a world rarity, is now permanently on display in the Society’s museum in Alice Springs where it continues to attract much attention and debate.