Rolls-Royce Owners' Club
of Australia

Rolls-Royce Armoured Cars

by Frank Canvin, 1980

ROLLS-ROYCE... What dreams these two words conjured up to a young Englishman in 1935 whose only mechanical acquisition was an indifferent bicycle. Such was my position in early January. The fulfilment of a desire for a service career found me an Aircrafthand-2nd Class (under training) at Uxbridge by mid-February. Many sore shoulders, many miles of traversing the square and many guard duties later, I found myself a fully-fledged A.C.2 and on the way to my first station. This turned out to be a 'Summer Camp' under canvas. A fight of three 'Westland Wallace' biplanes towed practice drogues for territorial gunners during their annual camp.

Strangely enough these aircraft, apart from the novelty, caused no undue enthusiasm. My main interest lay in the Motor Transport Section: an ambulance body on a 1914 Crossley tourer chassis, a Morris ten-wheeler with tanks and extinguishers as a fire tender, and a number of 1915 Leyland 3 tonners with various stores, wireless and workshop trailers.

This was it! I knew now what wanted. It was here I first met real airmen as opposed to the instructors and permanent staff at the depot. Here was a very different world. Here was comradeship, relaxed discipline of dress and working conditions, tales of service overseas, and of the Armoured Car companies equipped with Rolls-Royce Silver Ghost motors.

As soon as was permissible I submitted my application for training as a driver (petrol). At this time the R.A.F. had three grades of drivers - steam, electric and petrol. It was with some impatience that the required year of service passed and in January 1936, I received my orders to report to Manston, the then Motor Transport Training School

Now followed a concentrated but enjoyable six months. The vehicles in the greatest numbers were very large, elderly, but extremely friendly Leyland three tonners, followed by the Morris ten wheelers with various bodies. Still in fair numbers was the Model "T" Ford, a few as vans but mainly as 'Huck' starters, a mechanical means of turning the engines of aircraft. Among the light vans the most predominant was the comical 'Trojan' single chain drive. It had a solid back axle, two stroke engine under the driving seat and a diabolical starting device guaranteed to crack the elbow of eight out of ten. The passenger staff cars were a range of Hillman and Morris types, mainly the 'Hawk' saloon, a Morris Open Tourer and a special R.A.F. type known as the 'Hillman Wizard'. Moving up the scale came the

Humber 'Snipe' and the 'Pullman'. Needless to say, the last two were not included in the training syllabus.

The not so pleasant parts of the course were the theoretical periods. Differentials, gear boxes, magnetos, the Otto cycle, carburation, etc., broken by periods of actual maintenance.

Qualifying as an A.C.1 driver (petrol), I was posted to Lee-On-Solent. I'd hardly found my bed space and been allotted a vehicle before I applied for a Driver's Training Course (armoured car crew). Luck was on my side, for within weeks I was on my way to the Isle of Sheppey fora course in communication including Morse by flag, lamp and key. Semaphore, and orders by signal flag Gunnery naturally was an important subject. Vickers and Lewis 303, fired from a moving car at both moving and stationary targets, rifle and revolver both from a moving car and from the range.


A Rolls-Royce Armoured Car being unloaded at Alexandria with little apparent regard for stability

We were trained in mild steel 'mockups' of the Rolls-Royce Armoured Car with normal road wheels and tyres. This taught us the driving position, the controls and the limited vision with all 'Battle Shutters' closed. In action they were fitted with sand tyres and heavier wheels. Nor did the course include the heat, dust and sandflies that were joys to come. The one piece of realism came in the form of the 'Isle of Sheppey mosquito', which introduced us to sleeping under a mosquito net.

Training now over, it was goodbye to Eastchurch and 'Merry England' and off to the Middle East… destination unknown.

Once aboard the 'luxurious' vessel Dorsetshire, that served as a troopship during Spring and Autumn and a banana boat, for the rest of the year, speculation as to our destination were rife. We stowed our kit, then went on deck for a last look at home. The Aquitania towered over us, a grand old lady of the sea. At dusk we cast off, and were on our way, unaware that we would not return for five years. Arrival at Port Said put us out of our misery. Some joined No.1 Company: IRAQ; others No.2 Company: PALESTINE; or the least popular No.3 Company: ADEN. My destination was No.4 section, No.1 Armoured Car Company based at Shaibah, fourteen miles south of Basrah on the Persian Gulf. Also known as Ash Shuaybah or Shu-Aiba it was in the 30's a mere speck out in the desert. Now I understand it is a thriving oil town.

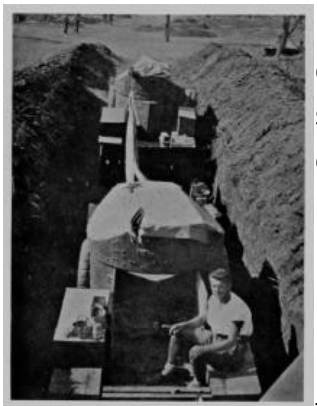
We shared the camp with the No.84 Squadron, at that time flying 'Vickers Vincents' as a bomber squadron. Our accommodation was two large and one small barrack blocks, a long shed with fourteen bays and two pits, a wireless transmitter room, an armoury and offices.

The make-up of a section at that time was -

- 8 Rolls-Royce Armoured Cars
- 2 Rolls-Royce Wireless Tenders, mounted on Silver Ghost chassis.
- 2 Scout Trucks, 10 cwt Morris Commercial Taxi Chassis, 17.9 engine

- 2 lorries, 30cwt, Morris Commercial 6-wheel twin rears, 15.9 engine

After a few days of celebrations for the men returning home and a welcome for us - the 'long awaited reliefs' - life came back to the normal routine. This period as we discovered, afterwards was our testing time. The right approach to the experienced crew members was most important; too confident an attitude was liable to be construed as 'cockiness', nervousness as weakness. The training programme was in the hands of the car to which one was attached.


Early armoured cars in a trench at Gallipoli

My own initial period was uneventful, my driver being an older man on his second tour of duty with `The Cars'. Any grinding of the gears, stalling or sticking in soft sand was met with words of encouragement and explanation. I considered myself extremely lucky to have such an instructor.

I was sorry at the time to be transferred to an 'Armoured'. Here one had to learn all over again. The extra weight called for a longer period in each gear, far more 'revs' on the change down; and in these early days we had not progressed to the 'clutchless change'. The steering too was vastly different, any violent snatch on the wheel and you were liable to find yourself battered by sliding ammunition boxes, not to mention the comments of the other crew members. More important was to roll on the crust of the sand. Any dig-in by the front wheels breaking this crust and the car was liable to roll - this misfortune overtook the 'Cheetah' as she mounted a bank and turned too sharply at the crest.

Most of the instruction during this period was the recognition of the desert, (so called) and the identification of colour of the different types of soil. This was the end of the dry period; and training was carried out again during the rainy season to compare the difference. This was not important as on occasions the section would break convoy, and each driver pick his own track.

Our first trial run was hilarious. Away we went sedately following the car ahead, our eyes glued for flag signals, eager to impress our superiors with our speed of recognition, when the order came to stop. Then the blow fell. The new men were to take the wheel. Away we went again, up went the signal to break convoy, and in minutes cars were stuck everywhere. We now learned the use and felt the weight of the long running boards. Those who had never handled a pick and shovel had a great apprenticeship with blisters to prove it. Freeing six tons of armoured car with its petrol tank nestling firmly on the ground is quite a challenge. As further assistance in these times of stress, each car carried a steel tow rope, but unfortunately the 'Lords' of the Air Ministry omitted to supply gloves. This was no help to those who were fastidious about their hands and fingernails.

It would be fair to say the Rolls-Royce armoured car was never designed; it just happened. The first date back to 1914/15 with the R.F.C.; and R.N.A.S. These original cars had heavy quarter inch armour as opposed to a later batch especially built for the R.A.F. which had a plainer style and three sixteenths of an inch plate. Various ventilating grilles were found to be unnecessary and were discontinued.

A heavy disc wheel designed to use the original size tyre was later to be superseded by a heavier wheel and sand tyres. This resulted in heavy steering, the correction being a wedge under the front springs to alter the angle of the kingpins. The lighter wireless tender did not need this modification. The only other alteration to the standard 'Ghost' was a cut-out in the exhaust system, bypassing the silencers and blasting directly on to the ground ahead of the gearbox. As a fighting vehicle the design was adequate, although the traditional comfort left much to be desired.

From front to rear this was my home away from home; the starting handle was left in position and held by a leather bucket; the radiator was shielded by shutters, closing to a 'V'; the engine was protected by side plates and hinged top plates; butting on to this was a square section that formed the driver's 'Battle Shutters'. When closed, visibility was restricted to a slit a mere 1½" x 9" for driving forward, and a small square by the driver's head at the side, needed when executing battle formations. The body sides were five feet long, curving at the rear to meet the curve of the turret, again with shutters closing to a 'V'. Over the rear wheels were toolboxes that served also as seats when on non-combat duties.

From behind the front wings to a point under the toolboxes were heavy running boards. Beneath these were heavy planks, tapered at each end, known as 'long running boards', very useful for bridging water or soft sand. On top of each side was a detachable water tank (40 gallon), a short running board mainly used as a platform for the jack, and a five-gallon drum of petrol

At the rear of the well, formed by the toolboxes, was a rear spring, a half shaft and a steel tow rope. The reputation of RR. half shafts not breaking certainly did not apply here. At least one every three months was not unusual.


Changing a tyre on an armoured car in the desert

Fixed to the turret was a high-powered searchlight and stowed behind the water tanks were six-foot lengths of canvas with slats of wood attached, known as 'sand mats'. Other equipment consisted of a full set of tools per car, funnel and chamois to filter petrol, a two gallon can of engine oil, Aldis lamp, semaphore flags, instruction flags, six one-gallon water bags (known as Charguls) for immediate use. A pick, shovel, compass, and binoculars completed the list.

Armament consisted of one Vickers MK. 1 (water cooled) per car, one Lewis (air cooled) all vehicles, one rifle per man, one A5 Webley per man, one Verey pistol per vehicle, one grenade-adapted rifle per half section and a Stokes 2" trench mortar per section.

The cars in Aden and Iraq had lift out planks for flooring; the Palestine cars had armoured shields. These Silver Ghost Rolls-Royce had three Achilles heels. As big hearted and willing as the Rolls were, they could be easily immobilised in close street fighting by driving a flock of sheep into them. The first few carcases fouled the steering. This trick had been used effectively during the troubles of the 1920's. The two other weak areas that affected them as successful fighting vehicles were their turning circle; and finally, the angle of fire through the ports combined with the wooden floor. It was possible to let a car pass, run to the side of the car and roll a bomb or light a fire under the car, without the crew being able to see the enemy or fire at them. Naturally we were quite uneasy each time we were sent to assist in Palestine with our Iraq model armoured car.

The driving position was an early cockpit seat bolted to the floor. A standard brake and six-inch cut-down gear lever were there and to the left of the clutch was a small lever that could be hooked back by the heel and operated the exhaust cut-out. All other controls were standard 'Silver Ghost'. Running on 'Mag & Batt.' was usual.

Among the tricks we had to learn was driving on the hand accelerator alone, moving up and down the gearbox and missing specific gears (1st - 3rd, 2nd - top), using the clutch. I'm sure Mr. Royce would not have approved of rolling changes without the clutch, a technique that was needed on four occasions to my knowledge.

Driving on normal reconnaissance with all shutters open was reasonable. One soon became accustomed to the limited forward vision. Although the heat was to be expected, there was a certain amount of through draught. What were not so pleasant were the occasions we drove with the battle shutters closed. In the terrific heat, with no draught, the Commander sat on the floor next to the driver watching for orders to be transmitted by signal flags. The Gunner slackened the clamps on the turret and crouching over the gun braced his back against the turret to swing it in the required direction. In an area roughly 6' x 4', with no headroom, were three racks of rifles, the Lewis gun in its clamps, the boxes of ammunition, an emergency ration box and three grown men. Not exactly ideal conditions for a leisurely spin! Normally the driver would be alone inside while the other two crew members sat astride the toolboxes, holding a rail fastened to the turret. With the rear flap in the turret open conversation was possible. Although I have referred to 'the driver' all members of an Armoured Car Company took their turn at the wheel. Cooks, Wireless Operators, and Medical Orderlies drove the auxiliary vehicles, but were not required to drive the Rolls-Royce cars. Similarly with the exception of the Medical Orderlies, we were proficient in the use of all weapons carried.

Our main role was Police and Search duties. The exception being No.2 Company in Palestine which had a more military role in support of an army unit.

Because of certain incidents during World War One, the army was not welcomed by the Iraqi Government. The Navy, although patrolling the Persian Gulf from a small establishment at

Basra, was not equipped for full land duties. The supplying of a "military presence" therefore fell to the R.A.F. Their aircraft formed part of a chain of defence for the Near Middle and Far East, while the armoured cars carried out ground duties.

Apart from 'showing the flag' at intervals in major towns, the routine task was the marking and inspection of the tracks that served for roads. Strangely enough these tracks were of great use to aircraft. Each track had a number in Roman Numerals marked on a mound of earth (Mutti) at ten-mile intervals, and an identification letter. Any pilot flying off course, came in low, picked up a track and followed it. By referring to his map he could then identify his position, and by observing an increase or decrease in the number determine his direction, ie. 'A' track Basra '0' - Bushiyah '120'; if there was in increase in numbers he was flying away from Basra.

During a sandstorm it was quite easy to run off track. We had many calls to find busloads of pilgrims on their way to Mecca which had met this fate. The markings would become blurred by drifting sand in summer and heavy rains in winter, thus requiring a six-monthly inspection, which was the main reason for the picks and shovels on all vehicles. Most of the tracks were reasonably firm, with the exception of 'K', which was known as 'fighting K'. It ran through an area of soft mutti which, after the rain, became a bog for 30 miles.

Iraqi deserts are nothing like the rolling sand deserts of Egypt. There is plenty of soil which, if irrigated, could bear a rich harvest. For some distance inland from the banks of the Tigris and the Euphrates there are now rich date plantations. In my day, however, apart from literally a few yards on either side of these rivers which bore some cultivation, mostly melons, the desert was stark and bare. The only serious cultivation I saw was a date plantation at the junction of the two rivers, Satt-el-Arab, at the port of Basra which was American owned and operated. There are some stretches of sand, but not so much as is expected, and stones and rocks are plentiful Travelling north from Bagdad, through the oilfields of Kirkuk and Mosul, passing Erbil (reputed to be the oldest inhabited city in the world) the going becomes increasingly rugged. The ranges become steeper until you arrive at a vertical mountain wall at the Persian border.

Some of these routine trips could last up to five weeks from the base station and the mobility of the section was of prime importance. Nothing of a personal nature was carried on the cars and all bedrolls and kit were stowed on the Albion. Tents, a breadbox, food supplies and any heavy stores were loaded on the Crossley. One scout truck carried the officers' kit, the other, the food, cooking utensils and the cook. He would put up a scratch midday meal as camp was only formed at night. The one exception being the crew of the wireless tenders. As they often had a signal watch after we had broken camp and moved on, they carried their own kits on these vehicles. With only the wireless equipment these tenders were much lighter than the cars and therefore travelled faster. Over these long periods we relied on aircraft of 84 Squadron to drop us fresh supplies of bread and other food stuffs about every three days. The petrol we carried was purely for emergency use, and

our main supplies came from dumps in the ground at 100-mile intervals. The oil companies had a contract to inspect these and keep them filled. Water normally caused no problems. We usually camped at a fort manned by Iraqi Levies, with water tanks filled by pumps. This gave us plenty of cooking and drinking water - personal hygiene however was very sketchy. As complete as a section was, it hadn't got around to portable baths or showers.

An armoured car at Mersa Matruh. Note bullet proof shutters to cover the radiator when under fire.

Life at base camp was pretty humdrum. Down to the bays at 6 am. (summer) or 7 am. (winter). Unlock your car, start it up, check it over, sign the daily inspection form and then tinker. The general rule here was: if it moves - salute it, if it doesn't - polish it! Polishing, painting and inspecting took up most of the time, but occasionally we had competitions for changing wheels, half shafts, and even springs under active conditions away from workshop facilities.

One trick to impress the uninitiated was to ease the side shutter, reach into the hand pump, pump 2 lbs of air, switch on and flick the ignition lever. If the engine was tuned correctly it would start. You then nonchalantly strolled round, unlocked the rear shutters and climbed aboard.

Apart from the driving aspect, weapon handling and range practise filled in certain periods; as did communication exercises with morse key, flag, lamp and that very useful method - Semaphore.

Even forming camp was brought to a fine art. This required vehicles in correct position, gunpit: on the corner: turrets swung, gun covers off, kitchen site and firepit dug, wireless mast erected and earth mat buried, auxiliary vehicles unloaded and tents erected. When on the outskirts: of a town during a 'showing the flag' recce, we even went to the extent of a flag mast flying the R.A.F. ensign.

The introduction to active Armoured Car Section in those days was in the tradition of the pre-war services, no pampering, straight in at the deep end ... On arrival, having had our pure white knobbly knees admired and the sartorial elegance of our issue khaki drill ridiculed, we paraded before the Flight Sergeant of the section. He handed us down to the Sergeant, and so down to the Corporals, each of whom were Car Commanders. Having made it plain that they despaired of us being able to do anything right and commenting that this time the Air Ministry had definitely scraped the bottom of the barrel, we were allocated to vehicles as gunners I was relatively lucky as my first steed was the wireless tender Pathfinder. Not being a fighting vehicle and having a Wireless Operator as part of the crew, the spirit aboard was far more relaxed than that on an armoured car.

In camp, cleaning was the order of the day, having been taken over the tender to find what was carried and where it belonged. I soon found out that great emphasis was put on cleaning equipment, a mixture of paraffin (kerosene) and engine oil being high in priority, followed by metal polish and paint. All pipes and unpainted parts were polished. Painted parts were continually touched up. Any grease nipples were painted red, the drip trays under the engine shone, and the Commanding Officer should be able to use the radiator as a shaving mirror. The body, springs and transmission were washed with the paraffin oil mixture,' the surplus wiped off and the parts polished. It was surprising, especially during the rainy season, how clean the vehicles kept. The dirt and mud simply fell away.

The Rolls-Royce cars having loose floorboards made the cleaning of the transmission relatively easy. The Albion and Crossley lorry bodies being mounted high on the chassis were a little more difficult. The drivers of the scout cars however, really had problems. Sufficient to say that these vehicles were the least popular, although occasionally driving one, I was never actually allocated to one as a crew member. These cars were usually reserved for those men requiring a little discipline, or those who were not up to the required standard in all other skills.

Having made mention of Instruction or Order flags a further explanation is due. Whenever cars moved off, the correct drill was observed.

All crews stood in front of their vehicles.

Verbal Order:

Get mounted

Start up

Flag Orders

Stand by to go ahead (when shown)

Go ahead (when lowered)

All Vehicles

Extend to column distance (shown)

Drop back to four cars length (lowered)

Open to dust distance (when shown)

Drop back from the dust of the car ahead (when lowered)

On approaching the camp site the convoy would close up to column distance on the flag being shown. This would be followed by:-

Flag Orders

Form camp (left showing)

Standby to stop (when shown)

Stop/switch off (when lowered)

Form line ahead (when shown)

ARMOURED VEHICLES ONLY

Execute (when lowered)

Section Commander in front

Form line astern (when shown)

Execute (when lowered)

Section Commander in rear

Line abreast to Port (when shown)

Execute (when lowered)

Section Commander on right

Line abreast to Starboard (when shown)

Execute (when lowered)

Section Commander on left

Line abreast of Port and Starboard (when shown)

Execute (when lowered)

Section Commander in centre

ALL cars 90 degrees to Port (when shown)

Execute (when lowered)

All cars turn quarter circle left.

ALL cars 90 degrees to Starboard (when shown)

Execute (when lowered)

Cars turn quarter circle right

Form 'V' (when shown)

Execute (when lowered)

Arrowhead Car Commander at point

Retire (when shown)

Execute (when lowered)

All cars turn through half circle

The origins of these signals go back to the early influence of the Royal Naval Air Service before amalgamation with the Royal Flying Corps to form the R.A.F.

Another connection with these early days was the practice of naming cars, although this seemed rather elastic and depended largely on individual Section Commanders; this personal whim also reflected on the colour of the cars. Over the years it ranged from dark green to light sand.

The prefix to the name also seemed to be one of personal choice and not an Air Ministry directive. Some cars displayed the letters H.M.A.C. while others aspired to R.R.A.C. As a rule the non-fighting vehicles carried a name only, but there were exceptions.

During my tour with No.1 Company, this was the rule with No's 1, 2 and 3 Sections, but in 1937 No.4 Section acquired a new commander who preferred the cars in a light sand colour, dispensed with a prefix, and standardised the names to begin with the letter 'C, After all these years memory has faded and it is not possible to remember the old and new names, or the sections to which they belonged.

The names still recallable are:

NO.4 Section

Armoured Cars

- Relentless
- Chimaera
- Tigris
- Centaur
- Satire
- Charon
- Jubilee
- Cerebus
- Cheetah

- Cyclops
- Curlew
- Jaguar

Wireless Tenders

- Pathfinder
- Panther

Auxiliary Vehicles

- Zerka (Crossley)
- Amadia (Albion)
- Magnolia (Scout)
- Moy (Scout)
- Morten (Morris 30 cwt)

No's 1,2 and 3 Sections

Armoured Cars

- Thunderer
- Buffalo
- Dhibban
- Adder
- Diana
- Avenger
- Astra
- Virginia
- Terror
- Vulture
- Jackal
- Victory
- Bloodhound
- Intrepid

- Explorer
- Vengeance
- Lion

Wireless Tenders

- Wanderer
- Wayfarer

Auxiliary Vehicles

- Barzan (Crossley)
- Comet (Ford 1 ton)

These are the faded tatters of the memories of my youth. That this article exists in print stems from my idle comment during a New Zealand Rolls-Royce and Bentley Club dinner that I had served in one of the original Royal Air Force Armoured Car Companies - my introduction to Rolls-Royce machines and to an undying love match.