



The Rolls-Royce 40/50 Armored Car “Ghosts of the Desert”

James Stejskal © 2018

*They called the motorcycles “devil horses,”
the children of the cars, which were
themselves the sons and daughters
of the trains on the Hejaz Railway.*

So began T.E. Lawrence’s (aka Lawrence of Arabia) description of the various British vehicles of the Arab Revolt in his magnum opus *Seven Pillars of Wisdom*. Who is to say the locals were wrong? The Kenyan Askari (soldiers) who fought with the British in German East Africa called the Rolls-Royce armored cars “Rhinos that spit lead.” Most had never seen an automobile let alone one with a Maxim-Lewis machine gun protruding from its armored tunafish can-like roof turret.

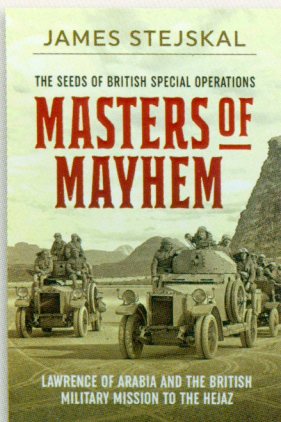
The first two Rolls-Royce Admiralty Mark II Pattern armored cars that joined Lawrence of Arabia at the Arabia coastal port of Wejh in March of 1917 were already veterans. They had fought in the East African campaign and before that in German South West Africa where they helped eject the Germans from one of their most lucrative colonies in 1915.

Although the British had no armored cars at the beginning of World War I, many designs existed and building such

war chariots had been attempted. Armstrong-Whitworth actually produced armored vehicles for the Russian Imperial Army. It was only when the Belgians cobbled together a few vehicles with boilerplate armor and machine guns that the British began to get serious.

Before the conflict in Europe settled into the static trench warfare that would see millions of men staring at each other across seemingly impassable stretches of no-man’s-land, Allied forces in Belgium and France engaged in a desperate attempt to halt the German advance towards Paris.

These first engagements, known as the Battle of the Frontiers, were fast-moving, mobile encounters. Commander Charles Samson went so far as to use several privately owned vehicles to attack the enemy ground forces his airborne observers had located. Samson, a Royal Navy officer, was in charge of a squadron of airplanes tasked with flying reconnaissance missions against the Germans around Dunkirk. He witnessed how the Belgians had armored some of their vehicles and decided to do the same. He arranged to have three vehicles modified by the Dunkirk shipbuilder Forge et Chantiers de France for armed service. One of the cars was a Rolls-Royce, another a Mercedes, and the last was either a Talbot or Wolseley.



Author’s note: This article is an amalgam of my experience in the Middle East and several articles I wrote for the Silver Ghost Tourer. It was also the spark for my book *Masters of Mayhem: Lawrence of Arabia and the British Military Mission to the Hejaz: The Seeds of British Special Operations* (Casemate, 2018); see book review on p. 12989.

I traveled to Jordan in 2012 to work with the Great Arab Revolt Project whose purpose was to follow Lawrence’s trail from World War I in an attempt to determine how accurate (or truthful) he had been in telling his personal history. The organizers and participants were mostly a cerebral lot who called their work “conflict archaeology.” First developed in the study of the battlefield at Little Big Horn, it is a sub-discipline of archaeology that deals “with technological, social, cultural, psychological aspects of modern conflict.” We discovered much interesting history about the campaign. Most importantly, we determined that—to paraphrase Huckleberry Finn—Lawrence was a man who may have stretched his role in history, but generally told the truth.



It had to start somewhere . . . this powered quadricycle and its gentleman gunner dates to June 1899.

The result was a crude but effective vehicle that caught the attention of officials back in London. Most significant among these was Winston Churchill, then First Lord of the Admiralty. The cars' success in battle led to the decision to produce more of them and the Admiralty's Commodore Murray Sueter, Director of the Air Department, began to rework Samson's "prototype." This work led to the Royal Naval Air Service (RNAS) establishing the first armored car units. Churchill initially authorized sixty cars. The first were built on a variety of makes including 21 Clement-Talbots, 21 Wolseleys, and 18 Rolls-Royce cars.

The first Admiralty design featured armored plate (made by William Beardmore & Co. of Glasgow) that protected the driver and a rearward facing "V" plate that protected a gunner at the pedestal-mounted machine-gun pointed to the aft. The idea was to back the vehicle into position, fire the gun, and then make a quick get-away. An unknown number of these cars made it to the front lines before a flaw in the design emerged: the open top left the crews vulnerable to enemy gun fire. Lieutenant Arthur Nickerson,

one of Samson's men, was co-opted by Sueter to improve the first model and he designed a rotating turret that accommodated a Maxim or Vickers .303 caliber machine-gun. By November 1914, six improved Rolls-Royce vehicles were built and shipped to France. In all, 80 Rolls-Royces, 36 Lanchesters, and a few other makes would be built. At least three French Delaunay-Belleville were also built into turreted armored cars.¹

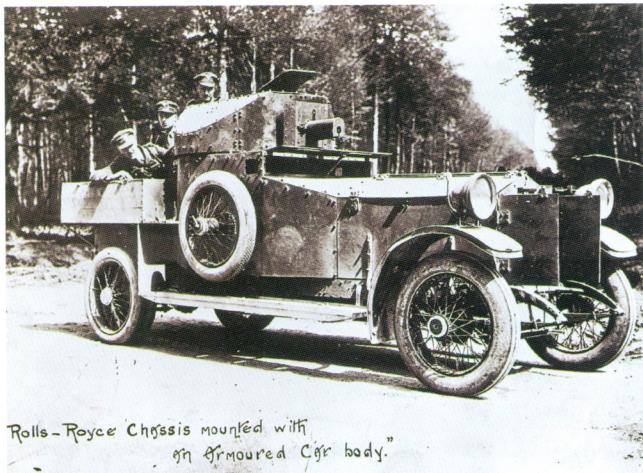
Production hurriedly began at factories around England, the intent being to equip an Armored Car Division of ten squadrons for service, each outfitted with 12 cars.² By January 1915, six were deployed to France and put into service against the massive German onslaught.

It soon became clear that the Rolls-Royce cars were far superior to the other vehicle makes, thanks to their reliability and ability to carry the heavy armor plate without loss of performance. All the other cars were de-armored and relegated to logistical duties, with the exception of the Lanchesters. The Rolls-Royce version was further improved by upgrading the armor to 3/8" inch thick rolled steel plate from the original 1/4" boilerplate, which greatly improved protection for the crew as well as the mechanicals of the car. Extra spring leaves (13 in front and 15 in the rear) and dual rear-wheel assemblies were added to carry the weight, but otherwise the cars were basically an "off the shelf" 40/50 "Alpine Eagle" chassis. This vehicle became known as the Admiralty Mark II Pattern Armored Car and would remain generally unchanged throughout the war.

The basis for the Rolls-Royce armored car was the 40/50 model that was introduced in 1907. After 1910, it was powered by a six cylinder 7428 cc engine that produced about 75 bhp. From 1913, the cars had a four-speed transmission and rigid front and rear axles that were suspended from the chassis by leaf springs front and rear. The car was stopped

1 These may have also been built by the company Forges et Chantiers de France in Dunkirk at Samson's request to demonstrate Nickerson turret design. When Samson withdrew from France, he brought the Delaunay-Belleville cars along with three Clement-Talbots and six Rolls-Royces with him. These became the Number 14 Squadron.

2 Some sources say as many as twenty squadrons were intended, but records are inconclusive as to actual numbers.



Rolls-Royce Chassis mounted with in Armoured Car body.

An armored Rolls-Royce in WWI in Western Europe when the terrain was still passable. When that changed (r), the cars were deployed elsewhere.





Royal Field Artillery
10-pounder Mountain
Guns from the Motor
Section Training in Wadi
Rum.

Photo: Harry Chase, James A. Cannavino
Library, Archives & Special Collections,
Marist College, USA

with the aid of rear-wheel-only brakes (four-wheel brakes only made their debut after the war). The power and reliability of the 40/50 had been proven in the grueling Alpine Trial of 1913. The factory-modified "Alpine Eagles" were copied and produced for sale thereafter and it was this version of the 40/50 that served as the foundation for the factory-produced Rolls-Royce armored cars.

But the war in Europe was also evolving. Winston Churchill would later note that the situation that had led to the development of the armored car, changed in such a way as to render its employment in that theater of war ineffective: the water-logged soil hampered the mobility of heavy equipment, and the mobile phase of the war morphed into stationary trench warfare.

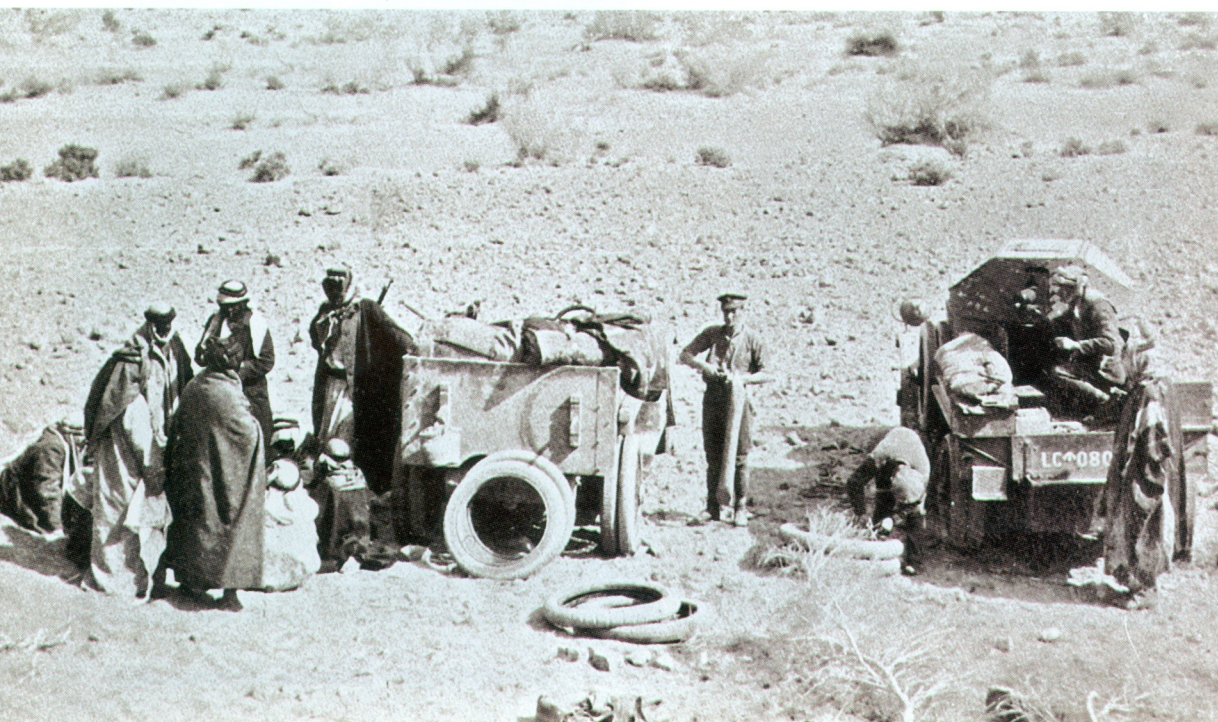
Moving On

With the utility of the armored cars diminished in Europe, the squadrons were withdrawn and sent elsewhere to fight the enemy. The cars would be deployed to Russia to demonstrate solidarity with Czar Nicholas' government in fighting the Germans and Ottomans. A British officer, Commander Oliver Locker-Lampson, who realized that the utility of his Number 15 RNAS Armored Car Squadron was being

squandered in western Europe, volunteered his unit to fight with the Russians in the Eastern Theater. Locker-Lampson, a Member of Parliament and erstwhile adventurer, put up his own money (around £20,000) to buy his squadron's cars. Although Number 15 was equipped with Lanchester armored cars, it had one Rolls-Royce Admiralty Pattern car (possibly chassis **6LB**) and a 40/50 hp tourer that Locker-Lampson used as his command car.

The expedition followed a tumultuous route across Russia from the White Sea to the Caucasus and the northern border of Iran supporting the doomed Czar's army both in its attacks as well as its retreats. The two Rolls-Royces often did yeoman work for the squadron, sometimes towing the less durable Lanchesters through mud and snow. Notably, Locker-Lampson's tourer racked up 53,000 miles during the campaign before the squadron was evacuated from Murmansk in January 1918 after the Bolshevik Revolution removed and later murdered the Allies' patron, Czar Nick.

Other squadrons went further afield. The Royal Navy's Number 1 Squadron was sent to South-West Africa to fight the German *Schutztruppe* alongside the South African Army. A section of its cars was then sent to East Africa as the 10 Armored Motor Battery. Number 2 Squadron ended up in

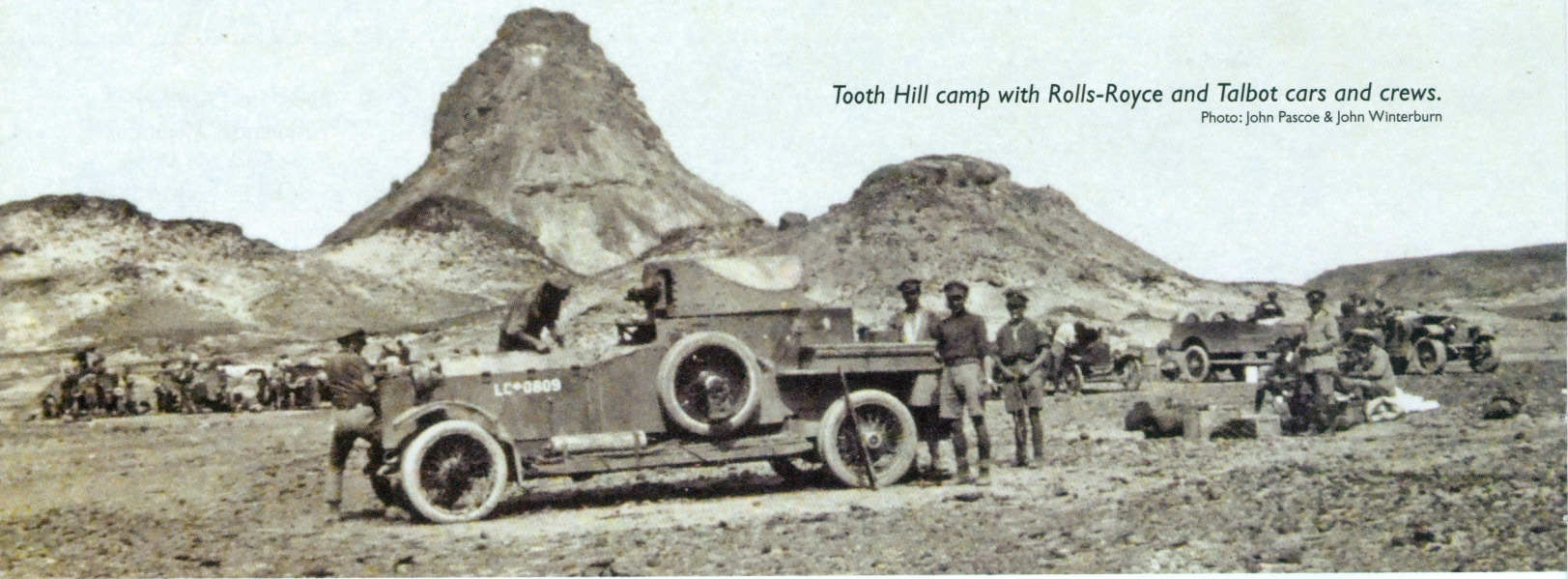


Changing tires on a
Rolls-Royce armored car
while Arab passengers
take tea in the shadow
of a Rolls-Royce tender.

Photo: Gilman Family Collection

Tooth Hill camp with Rolls-Royce and Talbot cars and crews.

Photo: John Pascoe & John Winterburn



North Africa to fight the Senussi insurgency in Libya that was threatening the British in Egypt. It was from these two units that cars were drawn to make up the most famous of all the armored car units, the Hejaz Armored Car Battery (HACB).

Two of the HACB cars came from East Africa while the remainder of the complement came from Number 2 Squadron. The cars were no longer “Navy”—they and their crews transitioned to the army for their next adventure.

In the Hejaz

The HACB operated in desert of the present-day countries of northwestern Saudi Arabia, Jordan, and Syria in support of the Arab Revolt. By 1916, the Western Front had become a stalemated quagmire and the British government looked east to find a solution.

Despite its failure at Gallipoli, Britain had settled on a strategic course to dominate the Middle East. Its army in Egypt began to plan an offensive to wrest control of territory from

the Ottomans. In 1916, after the quelling of the Senussi uprising in the western desert, General Archibald Murray’s Egyptian Expeditionary Force began to increase its manpower in anticipation of a conventional campaign. When it did come, the strategy would include an offensive from Egypt into Palestine and Syria led by Murray, with another through Iraq.³ Kermit “Kim” Roosevelt, son of President “Teddy” Roosevelt, served in Iraq as a Royal Army Captain with the 14th Light Armored Motor Battery.⁴

3 The Iraq/Mesopotamian campaign was ignominiously led by Sir John Nixon whose poor leadership led to the surrender of 10,000 British-Indian troops under Sir Charles Townshend at Kut, Iraq in April 1916. Maude recaptured Kut and then Baghdad in March 1917.

4 Roosevelt served in Iraq in 1917, before he joined the US Army in France. He served under Nixon’s replacement, General Sir Frederick Stanley Maude. The 14th LAMB was also equipped with Rolls-Royce armored cars.



Lieutenant Gilman and men of the Hejaz Armored Car Section in Egypt. 1) Bond, 2) James Brown, 3) Tommy Lowe (KIA), 4) Gilman, 5) Jackson.

Photo: Edward Metcalf Collection, The Huntington Library, San Marino, California



The Hejaz Armoured Car Section and RFA 10-pounder Motor Section at Abu Lissal. March/April 1918. Photo: Harry Chase, James A. Cannavino Library, Archives & Special Collections, Marist College, USA

But, before the major offensive began, a small group of English officers in Cairo sought to stir up trouble in the Ottoman-Turk backyard. Known as the Arab Bureau, this group of intelligence specialists began to lobby the British High Commissioner in Egypt, Lord Kitchener, to garner support for an uprising by Arab nationalists against the Ottoman government. They reasoned the distraction would aid the main effort, not to mention that supporting the Arabs would open the door to being able to control the area after the war.

The British decided the Arabs should do most of the actual fighting; they understood that the appearance of “Christian” troops would have done more harm than good. The Hashemite Arab leader Sharif Hussein ibn Ali was chosen to lead the revolt and he allowed a few British and French “advisors” to assist his cause. Their job was to coordinate the campaign, and to supply the arms and gold to make it happen. A group of British officers led by Colonels Cyril Wilson and Pierce Joyce led the way. Accompanying them, almost on a fluke, was a diminutive archaeologist and surveyor with no military experience, Lieutenant Thomas Edward (T.E.) Lawrence.

It soon became apparent that the Arab army could not succeed in direct combat against the better equipped and more disciplined Turkish forces. Lawrence and the other advisors adopted a strategy of hit and run guerrilla warfare that better suited the Bedouin fighters. After all, the *ghrazz* or raid was the Bedu’s traditional method of war.

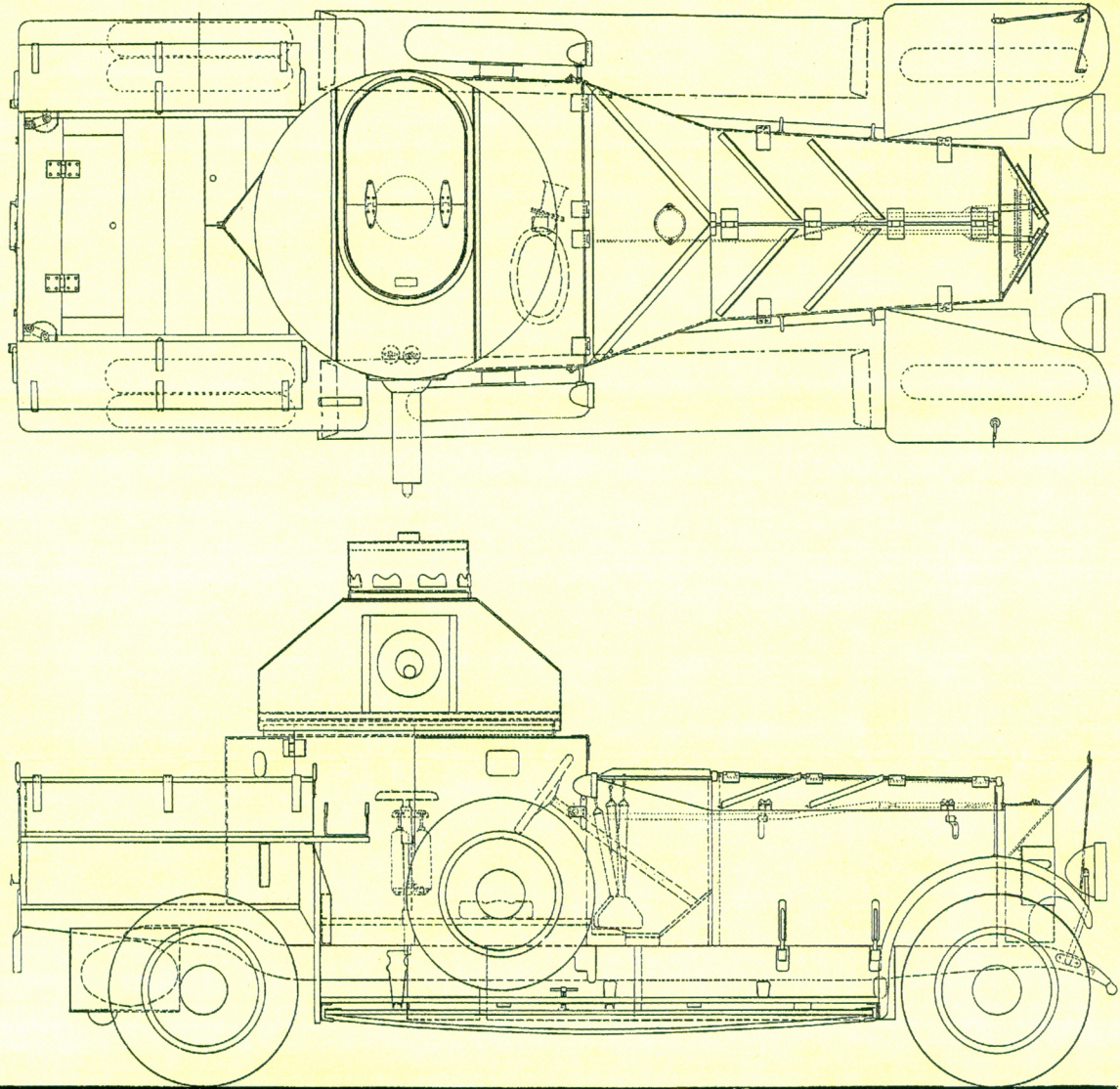
At first, they relied on camels and horses to move the force quickly, but then General Murray sent a detachment of armored cars and two 10-pounder screw guns on Talbot trucks to assist the campaign.⁵

With their rag-tag tribal forces, the British advisors to the Arab Revolt realized that hit and run operations against the rail system were a better course of action than trying to take on the Turkish Army directly. At first, raids that exploited the Arabs’ knowledge of the desert and their fleet-footed camels were used to good, if limited, effect. Then technology propelled them forward. With the arrival of machine guns, artillery, motor vehicles and airplanes (manned mostly by Commonwealth soldiers), the Arabs’ fighting capabilities were enhanced.

By this time, Lawrence had established himself as a confidant to Feisal ibn Hussein, the son of the Sharif and the leader of the Arab Northern Army. Lawrence appreciated technology and immediately grasped the cars’ utility (as he did with airplanes and their ability to scout out the enemy and map terrain). Not only could they cross the desert quickly, they were a mobile weapons platform with firepower unknown to the Arabs or even the Turks. In short, he knew he could exploit this advantage to give his raiders the edge in battle. He also knew they were the perfect tool for attacking the main Ottoman supply line—the Hejaz Railway that ran between Damascus and Mecca.

The HACB numbered eight 1914 Rolls-Royce Alpine Eagle-based cars and one older 1909 Rolls-Royce. Five were fully armored, and three served as support vehicles and were known as “battery cars” or simply tenders. Most of the Hejaz cars had dual-front wheel assemblies as well as on the rear, which would have made for an interesting turning circle. Along with the registry numbers painted on the hoods, the cars were given colorful nicknames. There were “Blast,” “Grey Knight” and “Bloodhound,” among others.

⁵ The Breech Loading 10-pounder Mountain Gun was called a “screw gun” because the gun barrel came in two pieces—a breech and a chase—that were screwed together before it could be fired. In ordnance terms the gun was called “jointed.” The Royal Field Artillery’s (RFA) 10-pounder Motor Section was crewed by Royal Artillery officers and soldiers; they served throughout the campaign.



ARMoured-CAR, ROLLS-ROYCE. 1920 PATTERN, MARK IA. |L|.

Armoured Body.—Rolls-Royce Armoured Cars in service are represented by three types as follows:—

- Armoured Car, Rolls-Royce, 1920 Pattern, Mk. I.
- " " 1924 Pattern, Mk. I.
- " " 1920 Pattern, Mk. IA.

The chassis itself is identical for all three types of vehicles but differences will be observed in the design of the body or superstructure. These differences constitute the distinguishing features of each type.

The 1920 Mk. I is the earliest type of Rolls-Royce armoured car in the service.

The 1924 Mk. I the latest design, embodies improvements gained by experience with the earlier pattern.

The 1920 Mk. IA is a modified 1920 Mk. I incorporating as far as the design permits certain of the main features which had been introduced in the 1924 pattern.

In common with other A.F.Vs. of this class the armoured bodies of these cars include:—

- (i) A body proper for accommodating the crew and driver.
- (ii) A revolving turret on which is mounted a hood.
- (iii) A forward portion which enclosed the engine compartment.

The armoured body proper constitutes the fighting chamber, which in the 1924 pattern has entrance doors on the near and off side of the vehicle and also a double leaf door, secured from the inside, at the rear, all three doors having revolver and look-out ports.

No side doors are provided on the 1920 Mk. I and Mk. IA patterns.

On the off side of the body adjacent to the driver's seat is an aperture for the driver's use for general observation and signalling.

The driver's look-out is protected by an adjustable hinged flap of B.P. steel having a look-out port for use when the flap is closed.

An adjustable driver's seat arranged to slide on runners and a loose cushion for the observer are provided on the 1924 pattern, while on the 1920 Mk. I and Mk. IA patterns, seats for both driver and observer consist of loose cushions. The fighting chambers of the 1920 Mk. I and Mk. IA patterns are furnished with a removable pillar seat with socket fitting for the gunner's use.

Festoon lamps above the instrument board provide the illumination necessary for the driver.

The turret, mounted above the body, is supported on steel rollers which enable it to be rotated freely on a circular path.

These rollers, of which there are three on the 1920 Mk. I and Mk. IA patterns and six on the 1924 pattern, can be raised clear of their path and, by employing a locking device, the turret is prevented from rotating when the vehicle is travelling or not in action.

For map reading and general lighting Helleston hand lamps are fitted in the turret.

In the 1924 pattern, 1920 pattern, Mk. IA, and certain 1920 pattern, Mk. I, cars, the turret armament consists of a .303 Vickers machine gun carried in a No. 4 Mk. 1 spherical mounting which has a maximum elevation of 40° and depression of 15°. The 1924 pattern, however, carries in addition a .303 Hotchkiss machine gun unmounted.

In the remaining 1920 pattern, Mk. I, cars, the turret armament consists of a .303 Vickers machine gun carried in a forked mounting.

Surmounting the turret is a fixed hood of special shape provided with a number of look-out ports for observation and control purposes.

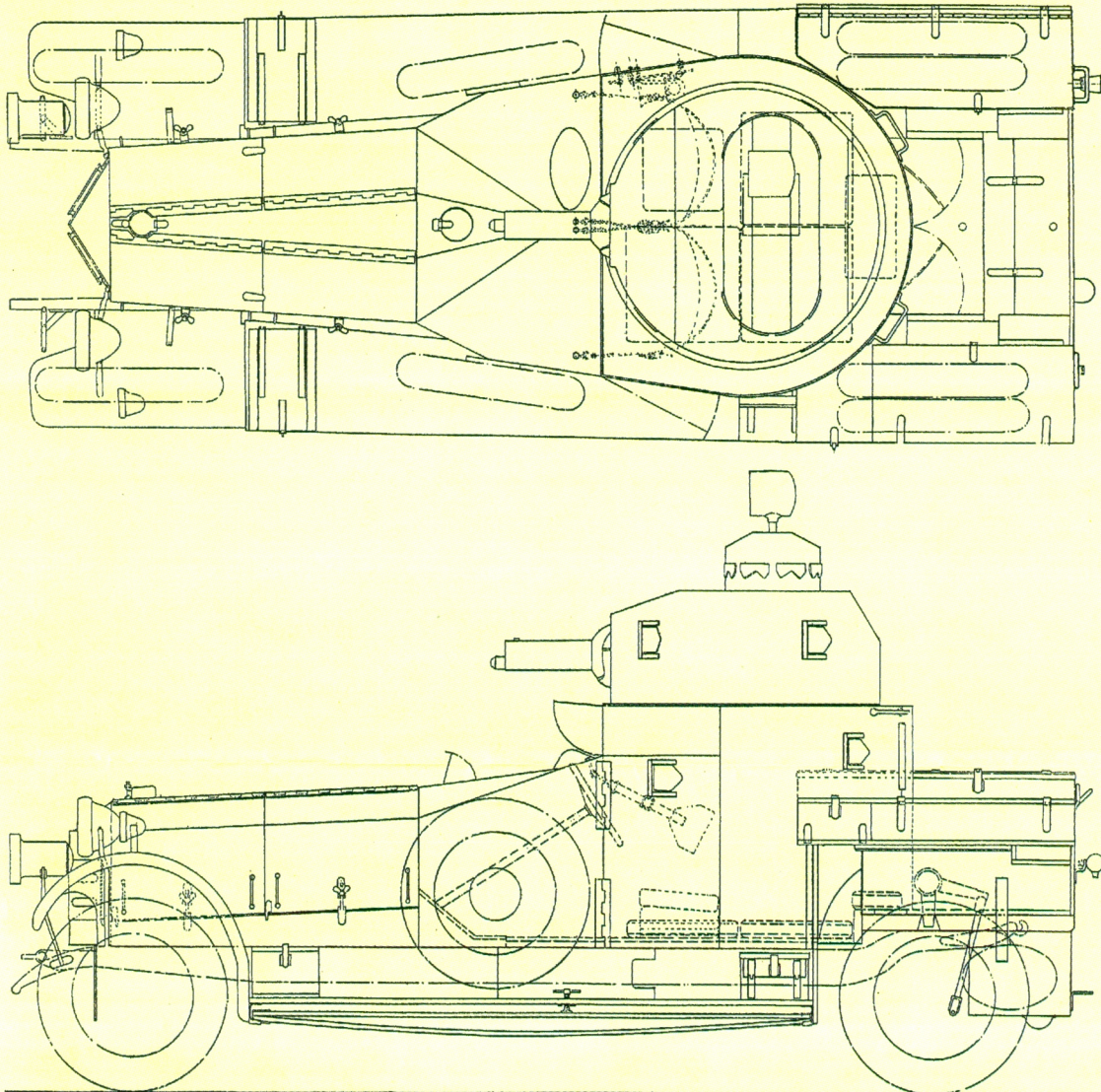
This hood on the 1920 Mk. I and Mk. IA patterns has a hinged flap



ARMOURED CARS

Diagram 14.

Diagi



ARMOURED-CAR, ROLLS-ROYCE, 1924 PATTERN, MARK I, |L|.

which, when open, provides a port for signalling and for exit in an emergency. On the 1924 pattern the top of the hood is closed except for an aperture sufficiently large for a searchlight to project.

The body of the 1924 pattern and the turrets of all three patterns are asbestos lined and all projecting parts are suitably padded to protect the crew from injury.

At the forward end of the engine compartment double leaf doors with louvres are fitted. These are operated by the driver, thus controlling the amount of cooling air which is admitted to the radiator and, if necessary, when closed, affording complete protection to the radiator.

A B.P. shield protects the underside of the engine compartment while B.P. steel angle plates, arranged diagonally on the cover, serve to deflect machine gun and rifle fire.

The exposed portion of the vehicle behind the body is utilized for the stowage of tools, spares and equipment, which are housed in lockers carried on platforms arranged as mudguards over the rear wheels.

Protective armour encloses the main petrol tank underslung at the rear of the vehicle.

The superstructure of the 1924 pattern is armoured throughout with bullet proof steel plate 6 mm. thick but varies in thickness on the 1920 Mk. I and Mk. IA patterns as follows:—

Vertical	8.5 mm.
Horizontal	6.5 mm.

The following additional details in connexion with the armoured body should be noted:—

Ammunition.—The fighting chamber of the 1924 pattern is fitted with special racks for carrying the following:—

•303 S.A.A. Vickers—3,000 rounds in 12 boxes, each containing one belt of 250 rounds each.

•303 S.A.A. Hotchkiss—600 rounds in 2 boxes, each containing 6 belts of 50 rounds each.

No special provision is made on the 1920 Mk. I and Mk. IA patterns for stowage of ammunition.

Ditching Beams.—Ditching beams are supplied for the crossing of deep trenches, etc., whose width does not exceed the effective length of beam. Two of these beams are provided each 8 ft. 3 in. long. When not in use these are stowed one below each running board.

Fire Extinguishers.—To enable small outbreaks of fire to be dealt with, four Pyrenes are supplied, being housed in brackets which are readily accessible.

Drinking Water.—A small water tank holding about 18 pints is provided on the 1924 pattern. It is housed in a compartment of the locker on the near side platform with a tap arranged inside the fighting chamber.

Tools, Equipment and Spares.—Tools, equipment and spare parts for engine and machine guns are accommodated in lockers on the rear platforms and in boxes on the running boards. Also in trays housed in recesses below the floor of the body.

By Command of the Army Council

THE WAR OFFICE,

31st May, 1933.

H. J. Greedy

ARMOURED-CAR, ROLLS-ROYCE, 1924 PATTERN, MARK I, |L|.





Lieutenant Colonel T.E. Lawrence and Army Service Corps (ASC) driver sitting in "Blue Mist", Marjeh Square, Damascus, 2 October 1918.

Photo: Courtesy Rolls-Royce Heritage Trust

There was a ninth vehicle, a tender named "Blue Mist," that became the most well known of the unit. It was actually the runt of the litter. With a three-speed transmission and less power, it had trouble keeping up with the others. However, when Lawrence was photographed in it as he entered Damascus, the photo became one of the enduring images of the Arab Revolt.⁶

Lawrence counseled Feisal to combine his mobile forces for operations. Feisal's camel-mounted tribal army would converge and link up with the armored cars and the 10-pounder guns to attack an Ottoman position and then melt away before reinforcements arrived. But they found this difficult to manage because the Arabs expected the well-armored British troops to do the fighting, and before long the armored cars and artillery often operated on their own in the desert.

Sabotage of the railways was much easier with the cars as well. Instead of schlepping hundreds of pounds of gun cotton (or the safer gelignite and dynamite) across the shifting sands on the backs of camels, the explosives were carried in the tenders and delivered to the tracks (nearly) as easily as a FedEx box. Plus, additional soldiers and heavy weapons could be carried on the tenders. With the armored

"cars providing overwatch, the explosives were put in place. Everyone would retire to a safe distance (most of the time) to watch the fireworks. It was the tenders that were used for reconnaissance; four days worth of supplies and a long range meant the raiders could reach areas with a speed not attainable on camel.

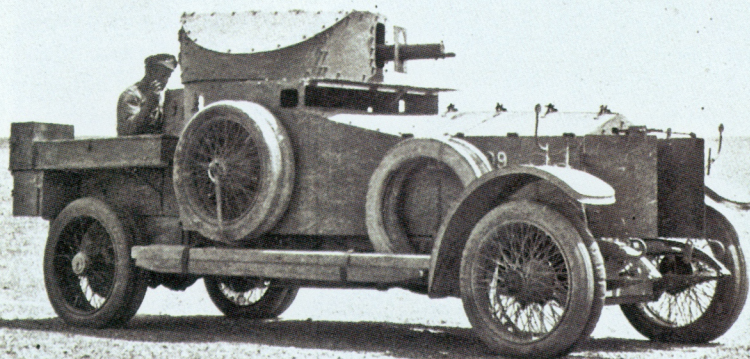
The tenders were the lifeline for the battery and Lawrence's operations, picking up and running supplies from Akaba to the forward bases. This included the millions in Commonwealth of Australia gold sovereigns, off-loaded from British ships, used to pay the rebel troops and maintain their loyalty to the leader of the revolt, Sharif Hussein and his son Emir Faisal, the commander of the Arab Northern Army. The tenders were also used to evacuate the sick and wounded back to Akaba, including Turkish prisoners of war, as they were the fastest and the most comfortable (under the circumstances) transport available.

But the Rolls-Royces' most significant job was to conduct raids on the railroad line. The tenders carried the fuel, food, ammunition and explosives required to destroy the bridges, block houses, and tracks of the Hejaz railway. The rail system was the Ottoman Turks' main line of communication between Damascus in the north and Medina in the south, a distance of over 1,300 kilometers. They relied on it to keep their beleaguered forces in Mecca supplied and maintain their tenuous hold on the land between the two cities.

⁶ It was 1909 chassis 60985 now lost. Reporter Lowell Thomas erroneously called "Blue Mist" Lawrence's favorite. It was one of the many he used and it was also the only car that could not run dual front wheels because of its limited power.

Rolls-Royce Armoured Car LC0809 in the field.

Photo: Gilman Family Collection



Colonel Dawnay stands next to Rolls-Royce Tender LC1105.

Photo: Gilman Family Collection



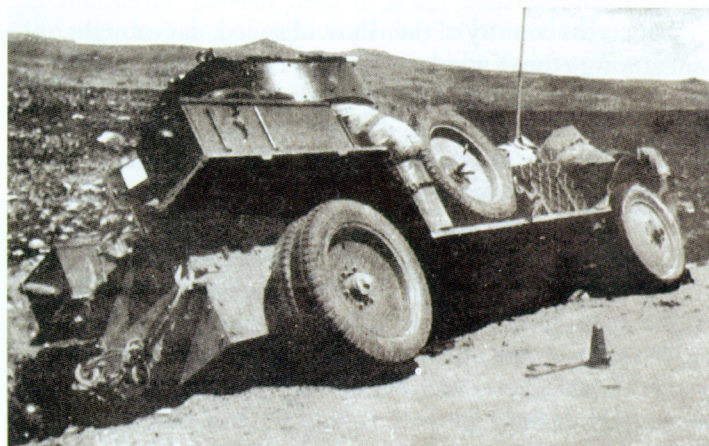
The armored cars could not carry the large amounts of gun cotton or gelygnite necessary to wreck miles of track whereas the tenders could. Along with the explosives, wire and exploders, the tenders also carried the demolition experts. While the armored cars secured the area, the tenders moved in close to the track to emplace explosives and then retreat out of the area before all hell broke loose.

Lawrence's driver, S.C. Rolls (no relation to Charles, the company's cofounder), recounted a typical mission in his book *Steel Chariots in the Desert*. It did not end as peacefully as he hoped. His group was trying to destroy a long stretch of the rail line and after setting many blocks of gun cotton, Lawrence sent everyone back to the cars and began to light the time fuses. Then he, too, ran back to one of the Rolls-Royces, "Blast," which was theoretically now out of harm's way behind an embankment. But, before he reached the car, the charges began to explode and a section of rail that had been cut by the explosion came hurtling out of the sky to land on the front seat where Lawrence usually sat. The 9" piece of steel embedded itself in the wood under the cushion. Both men saw the incident for what it was: testimony to the near misses and escapes they had experienced in the desert thus far.

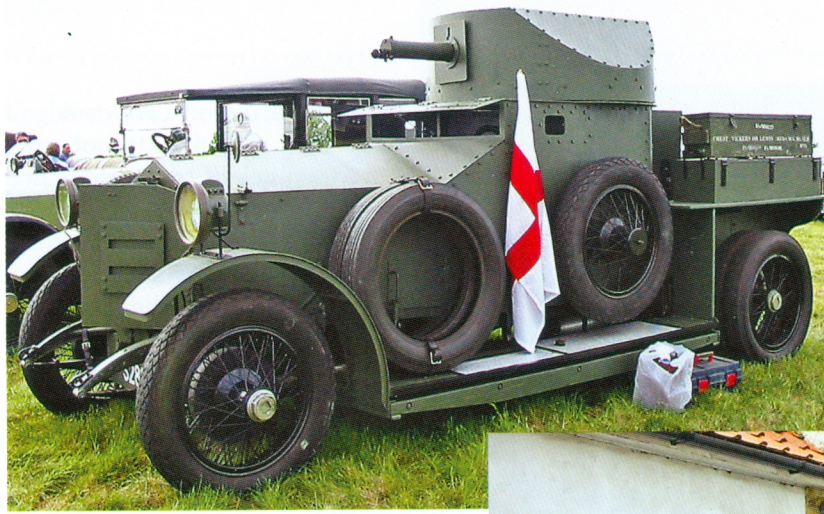
They didn't have much time to ponder their fate though, as rifle bullets began to sing over their heads. The Turkish observation posts had finally noted their presence and responded with gunfire from a distance of a few hundred yards. Time to make an escape. With Lawrence



A very comprehensively kitted out armored Rolls-Royce fording a river. Note that the wheels now have solid metal discs.

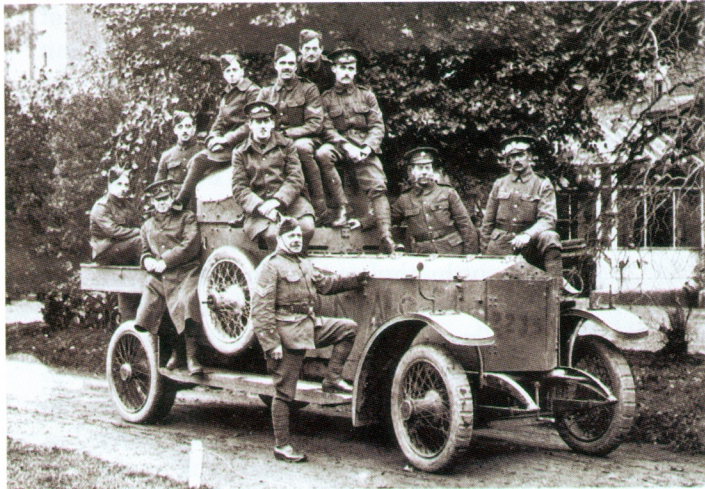


Where's the all-wheel-drive when you need it?! Note the wheel disks on the later Marks.

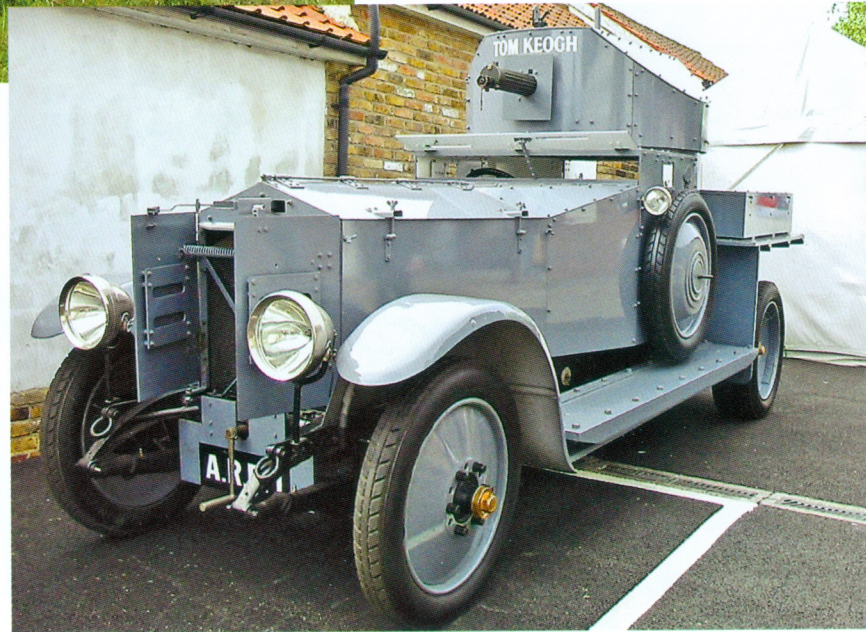


Two examples of restored armored Silver Ghosts, below an original (101WO) but with a replica body of a 1920 Pattern, and left an entire replica built out of aluminum panels by the late Frank Cooke on an American-made Silver Ghost, chassis S286PK, obviously an Ihd model!

Photo: Steve Hubbard



How many Tommies does it take to overload a Silver Ghost?



gesturing wildly to the other cars, Rolls gunned his own car and shot away into the desert, past the armored cars that were providing covering fire for the withdrawal.

The British advisors were innovators and constantly sought out new ways to employ weapons and vehicles. The Rolls-Royces were perfect for the campaign and Lawrence wrote about the cars glowingly in his tome, *The Seven Pillars of Wisdom*. Notably, when one of the cars finally broke, he said:

“A Rolls in the desert was above rubies; and though we had been driving in these for eighteen months, not upon the polished roads of their makers’ intention, but across country of the vilest, at speed, day or night, carrying a ton of goods and four or five men up, yet this was our first structural accident in the team of nine.”⁷

After fixing a broken spring with wood planks and bailing wire, the car continued on without further need of repair. Lawrence assessed them to be “worth hundreds of men to us in these deserts.” Over the hard desert landscape, the cars could easily reach 60 to 70 mph flat out with the exhaust cutout wide open, a trait as necessary for attack as escape.

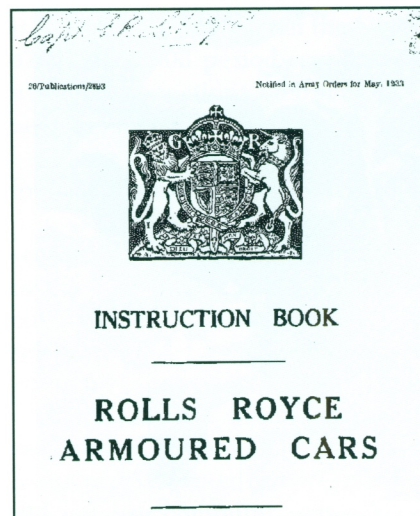
While the Arab Revolt did not singlehandedly win the war in the Hejaz, it did assist General Sir Edmund Allenby to win the campaign.⁸ Furthermore, the mobile tactics

developed by the HACB with Rolls-Royces proved even more useful and were employed in the Second World War by the British Long Range Desert Group and the Special Air Service in North Africa.

A Personal Connection

It was a remarkable confluence of events that brought me and other members of the Great Arab Revolt Project (GARP) to a remote spot of the desert in southern Jordan in November 2012. GARP had been working in Jordan for six years, visiting each fall for two weeks to conduct conflict

archaeology focused on First World War remains of the Hejaz Railway and its Ottoman Turkish defense system. Because the operations of Lawrence of Arabia were so transitory and elusive, GARP never expected to find much more than British bullets in the walls of Ottoman forts. That was about to change.



⁷ T.E. Lawrence, *Seven Pillars of Wisdom*, Chapter CVIII.

⁸ Lord Viscount Allenby of Meggido took command of the EEF in June 1917, replacing Murray after his second failed offensive against the Turks at Gaza.

Landscape Archaeologist John Winterburn had been tracking a camp Lawrence had used several times in 1917 and 1918. In *Seven Pillars*, Lawrence had called it “the Toothed Hill.” It was known to be near several Ottoman positions that GARP had already pinpointed. Winterburn located a rough map in the National Archives at Kew made by a pilot of the Royal Flying Corp’s 14th Squadron “X” Flight that depicted a “Tooth Hill.” Another GARP archaeologist then found a period photo that showed not only the hill, but also the Rolls-Royce armored cars of the HACB at its base. Thus armed, an advance team went out to locate the site while others, including the author, worked at an Ottoman-Turk fortress.

Based on the meticulous research and correlating evidence, GPS coordinates were chosen as a likely spot to search. As the crew neared the coordinates of the site, some broken pottery was discovered. On one piece were the imprinted initials “SRD” for Service Ration Depot, a sign that British troops had been there. Over the next days, the team completed an exhaustive recording of the site that definitively established it as the one used by Lawrence and his comrades.

One of the finds was a tight scatter of 70 rounds of rifle ammunition; most had been fired but some were misfired, their bullets still in the metal cartridge. The team leader, Dr. Neal Faulkner, asked my opinion and I could only come to one conclusion: there had been no battle at the camp, thus the ammunition must have been used at some distant spot. But who would carry expended cases back to camp? Clearly, the ammunition had come from one of the armored cars’ machine guns. When the car’s machine gun fired, the expended cases and misfired ammunition would have fallen inside the crew compartment. Returning to the camp after

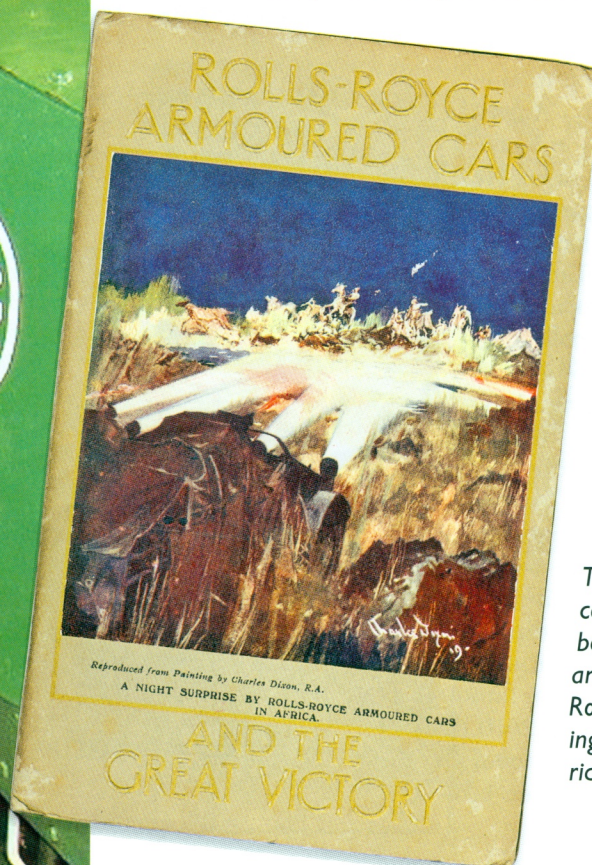
the action, the gunner had probably swept his car clean and the pile of cases had lain undisturbed in the desert for nearly 100 years. It was the first definitive sign that the Rolls-Royces had been at the camp.

It was here that I began to form my thoughts around an idea. I realized that this “side-show” of a side-show in the Great War, which secured General Allenby’s right flank as his army fought its way into Syria, was one of the first modern examples of combined special operations. “Combined” in that it employed many different arms of the military: air, sea and land elements, and “special” in that irregular forces—the Arab tribes—advised by foreign military officers fed with the best intelligence available fought an asymmetrical campaign of guerrilla warfare against a stronger military, the Ottoman Army.

On the last day, we made a final sweep of the area searching for any items missed by metal detectors or human eyes. As we walked towards our bus, my colleague Robert Riddett spotted an item on the ground. We examined it and discovered it to be a spark plug body. Near it were broken pieces of its porcelain collar. Additionally, a brass tire valve cap was located. We thus had two more bits of evidence to confirm that British driver/mechanics had worked on their cars at this site.

As we departed the old camp and drove down the sandy track, I could imagine the cars in my mind’s eye. It was a section of Rolls-Royces, their engines ticking over quietly in the cool desert morning. Then the cars rolled off and, as they picked up speed, the drivers opened the exhaust cutouts. The machines responded by surging forward, roaring across the hard-packed sand at 70 miles per hour with plumes of dust stretching out behind them, onward towards an appointment with destiny.

They were truly Ghosts of the Desert.



The illustration from the cover of the Boyd Cable booklet on Rolls-Royce armored cars published by Rolls-Royce in 1919 showing a night attack on horse riders in Africa.