

ARMORED CAR

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FRENCH ARMORED CARS 1902-1945

by Raymond Surlémont

One of the earliest and most progressive organizations in the world, the French automobile industry had soon gained for itself a widespread reputation—not yet contradicted—as a leading exponent of wheeled military vehicles, especially armored cars.

A first step towards a wheeled, motorized and armored war machine was undertaken by the Société Charron, Girardot & Voigt of Puteaux, located in a suburb of Paris. Charron replaced the rear seats of a light passenger car of their own make by an open-top, circular tub-shaped armored body. In the center of this armored body was a pedestal mount carrying a shield and a Hotchkiss machinegun which could fire all round over the armor.

This vehicle, which was not yet a true armored car as neither the engine nor the driver were protected, was exhibited at the *Salon de l'Automobile et du Cycle* at Paris, in December 1902, and was tested by the French Army by the middle of the following year. The CGV.1902 semi-armored car performed well but the company received little encouragement from the conservative military. In 1903 again, the Hotchkiss & Cie company produced a rather similar vehicle.

With a touch of irony, the next impetus to the development of a French armored car came from Russia which probably was aware of the CGN design of 1902. During the

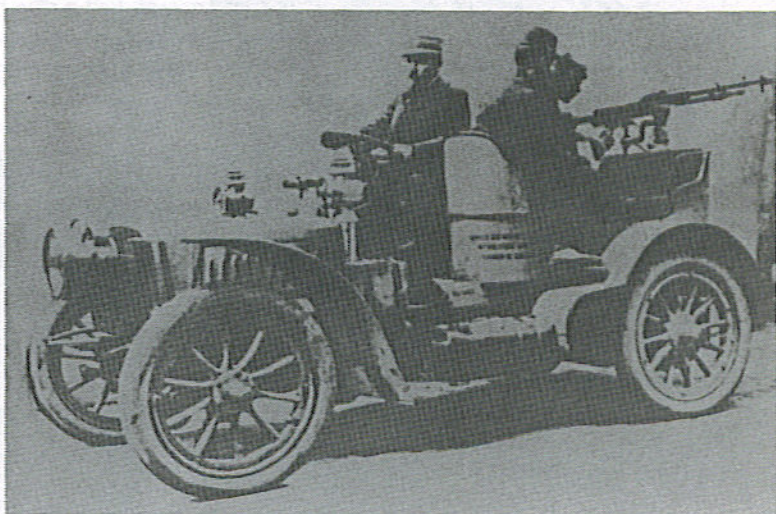
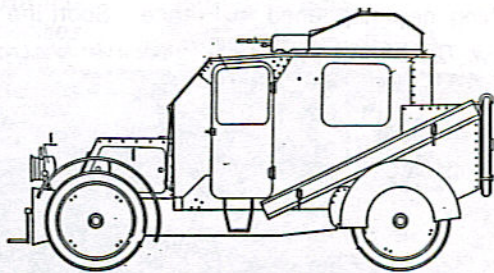
Russo-Japanese War of 1904, the Tsarist War Ministry had in hand a project for an armored car designed by a Cossack Captain, M. A. Nakaschidse; but they were reluctant to develop it at home. Consequently the Russians approached Charron, Girardot & Voigt and asked them to undertake the full design and manufacture of an armored car based on the Nakaschidse drawings. This car was a considerable improvement on the CGV.1902 model.

The Nakaschidse project came into being as the French CGV. 1906, for which Russia placed an order. The machine was tested, both in Russia and France, the latter to be compared with a Daimler

/Mercedes M.1903 purchased in Austria. Nothing emerged from these tests.

In 1904 the French Army purchased a Panhard & Levassor 24 hp touring car and used it as an unarmed reconnaissance vehicle during the 1905 maneuvers. In 1906, Captain H. Genty converted the vehicle into a motorized machinegun carrier, or *auto-mitrailleuse*, which was intensively tried with the French Cavalry through the years 1906-07. In the meantime, France was faced with native uprisings in North Africa and in December of 1907, the so-called Panhard-Genty machinegun car was hurriedly sent there. It performed well and became highly praised by the French Command in Algeria. Crashed in 1908, both car

Below: Charron-Nakaschidse 1906. Bottom: Panhard Genty machinegun car.



and driver (Captain Genty was badly injured), went back to France, where the machine was repaired and armored to a small extent.

From 1908 to 1911, seven more machinegun cars of the Captain Genty pattern were built on Clement-Bayard and Panhard touring car chassis. All went to North Africa to help deal with tribal disturbances which occurred in Morocco. In the meantime, and without any official interest, design work on a fully armored car had continued at Automobiles Charron Ltd., which was the successor of the former CGV company in 1906.

This new model attracted the attention of the Russian government which ordered ten of the new 1908 model. Through a still unclear customs incident –perhaps conveniently arranged– two of these cars in transit to Russia were impounded by the Germans, who tried them without much conviction during their 1909 maneuvers. Yet in 1909, the Hotchkiss company produced a semi-armored machinegun car, very similar to the CGV. 1902 machine and sold four to the Sultan of Turkey, while the French authorities remained indifferent.

Nothing new happened in France

Below: Turkish Hotchkiss 1909. Photos via: John Loop



until 1910-1911, when the Schneider & Cie armament concern designed a huge artillery tractor on the basis of a Schneider autobus chassis of 24/40 hp. It was a sort of mobile blockhouse, fitted with a box like, 5mm thick armored body, loopholed for vision and small arms firing. Two such machines were sold to the Spanish Army which used them in Morocco from 1912 to 1915 (see *Coches Blindados Del Ejercito Espanol [Armored Cars of the Spanish Army]* by Javier de Mazarrasa in AC issue #11). Once again, the advent of a fully armored motor vehicle did not stimulate the French Army, which had decided once and for all in 1909, that these vehicles were cumbersome, too costly and lacked mobility.

Things changed when World War One broke out: the opening stages offered considerable opportunity for the employment of fast machinegun cars which soon proved their need for armor protection. In France, the only remaining Charron armored car still undelivered to Russia was diverted and given to the French Cavalry, together with several touring cars carrying an open-top protection made of mild steel or armor plates.

Soon the first machinegun cars, or

autos - mitrailleuses (A.M.) were joined by some gun-armed cars, or *autos - canon* (A.C.) equipped by the Military Governor of Paris, General J Galliéni. In August 1914, the first month of the war, a large

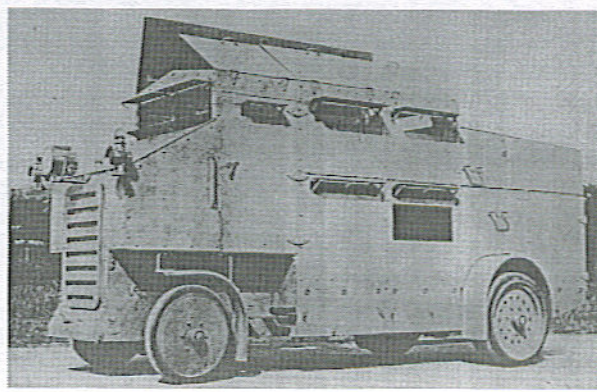
order for 136 A.M. and A.C. cars was placed; most of them being modified Renault 20 hp and Peugeot 18 hp touring cars carrying an open-top super-structure and a weapon –either cannon or machinegun– protected by a light shield.

The year 1915 was remarkably active in armored car design: many projects and patents were developed by Messrs Archer, De Dion Bounton, Lesieur-Debrieres, Schneider & Cie, de Ségur et Lorfeuvre and others. That most of them failed to attain service status was mainly the fault of the designers, whose ideas were often neither in accordance with actual military requirements nor with the level of the automobile technology of that time. Never the less, two note worthy designs emerged from Renault and Latil.

Renault evolved an *auto-canon de 47mm*, in fact an armored truck carrying a naval type 47mm Hotchkiss gun, housed in a half-turret –open at the rear– as was the practice on most of the contemporary light naval vessels at the time. On the other hand, the Latil company went on with a machinegun armed *camion blindé*, of which four examples were built on the basis of an artillery tractor TAR chassis.

Since the beginning of the war, a basic tactical organization, combining both types of weapons, had been set up as a three-car section, including one *auto-canon* and two *autos-mitrailleuses*. Later the three-car section became the core for a larger unit called *Groupe mixte d'autos-mitrailleuses et autos canons* (A.M.A.C.), of which seventeen were planned. As the armored cars were at first considered

Below: Schneider & Cie.



as mobile fire support units, they were given to the Artillery early in 1916. However it was soon recognized that they performed their most valuable service in cooperation with the cavalry divisions and corps; and on the 29th of June 1916, the French Cavalry took control of them.

By the time that improved armored cars appeared in service, conditions of warfare had changed in France. The western front had stabilized itself into opposing trench systems protected by barbed wire entanglements and machinegun nests. Consequently, the road-bound wheeled armored cars became less and less useful. This led to the design of a new type of armored vehicle capable of traversing shell-torn and cratered ground, cutting through barbed wire and, ultimately, breaking through the opposite trench system. In France, Colonel (later General) J.B.E. Estienne submitted a project for a tracked vehicle which was to become the Schneider tank, which was soon followed by further models. More or less adapted to broken terrain, the tanks soon left armored cars, and the so-called "wheeled tanks", behind them during 1916 and 1917.

The introduction of tanks had not slowed down French development of improved armored cars. Through successive stages, considerable progress had come with the advent of fully armored bodies and all-round traverse turrets. The next steps forward had been the fitting of reverse steering at the rear of the vehicle and the combination of two types of weapons in a single, fully-traversed turret. These improvements paved the way for more advanced designs. Such a French armored car was developed in 1917-18 on the basis of an American White truck chassis, built under license in France, and equipped for steering from either end. Fitted with a turret housing a 37mm gun with a machine-gun protruding in the opposite direction, the White armored car was just in the hands of the French Cavalry at the end of the war.

When the conflict ended, 205 White armored cars had been produced and such a quantity led France to maintain them in service as log as

possible, eventually including a modernization program. For years, they were the mainstay of the French armored car force and they performed most of the occupation duties in Germany during the twenties. The A.M.A.C. type of organization was changed in 1922-23 and merged into new Escadrons d'autos- mitrailleuses de cavalerie (E.A.M.C.), or Cavalry Armored Car Squadrons. Later on this organization was developed into the Groupes autonomes d'autos-mitrailleuses (G.A.A.M.).

In 1922, the French Cavalry drew up a twofold program which requested the study of *Autos-mitrailleuses de Cavalerie*, in the form of an A.M.C. n°1 (wheeled) and an A.M.C. n°2 (tracked), the former being a true armored car while the latter would have been a tank. The first vehicles proposed for the A.M.C. n°1 specifications were put forward by Panhard and Renault in 1927-29, but in the meantime the French Cavalry had turned its attention to half-tracked armored cars which were not in conformity at all with its own 1922 program.

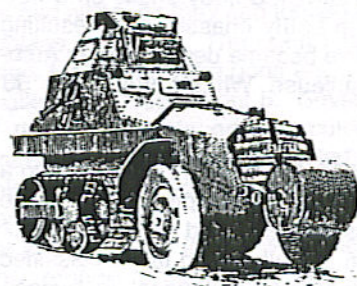
First, a war-time Peugeot car had been modified into a half-tracked machine for trials, which proved unsuccessful in 1924. Despite this fact, a new family of *Auto-chenilles de Cavalerie*, which owed much to the running gear and continuous rubber band tracks designed and developed by Messrs A. Kégresse and J. Hinstin, came into being with an evolutionary change in design.

The Citroën company initiated the trend with a first design, the Citroën-Kégresse (P.4), M.1923, built around a 10 hp touring car chassis of their own design. The sixteen cars ordered for service in Morocco were delivered in January 1925. As the Kégresse tracks had proved unsatisfactory during experiments made on the rock soil of North Africa, these armored cars were sent to Syria, where their users criticized their small radius of action and underpowered engine.

A second model, the Citroën-Kégresse (P.7T), 1926 did not go further than an uncompleted prototype. Citroën, which examined

a project for a more powerful armored car with a Citroën-Kégresse chassis, a Panhard 15 hp valveless engine and a Schneider armored body, received an order for four prototypes on 30 June 1925. As the Rif was in Morocco was raging against Sultan Abd-el-Krim's warlike tribes, the order was soon extended to 100 armored cars. Because of the size of the order, Citroën withdrew on 12 January 1926 and Schneider took over as the main contractor under the terms that the 100 vehicles would be ordered all at once, and that only four prototypes should be built for trials.

The four prototypes were the Schneider (P.16), M.1928, in which substantial improvements had been introduced in the form of a duplicate steering control, a new pattern Kégresse drive with sprockets at the front, cable and cast iron plate reinforced rubber tracks and two free running rollers in front to assist trench crossing. The war in North Africa which had led to the order had ended when the ninety-six Schneider (P.16), M.1929, with a roomier armored body and a different outline. The opposed arrangement for



Above: Schneider M.29

weapons had been abandoned in favor of a classic co-axial arrangement in a combined mount. A new power plant—a valveless, four cylinder Panhard engine—furnished a considerable increase of motive power over the previous patterns. The two front rollers had been replaced by a large revolving drum with the same purpose to increase the crossing ability.

The last standard version from the Citroën-Kégresse range of half-tracked armored cars was the Citroën-Kégresse (P.28). It was developed on the basis of a rejected infantry supply vehicle and fifty were built from 1932 onwards.

In the late twenties, France needed a wheeled armored car for colonial purposes. With this goal in mind, the Automobiles M. Berliet company developed as a private venture several four and six wheeled armored cars based on their so-called "full ground contact" range of truck chassis specially designed for use in overseas territories. Between 1926 and 1932, they turned out prototypes such as the VUDB, VUDB4 and VUM four wheelers, and the VPDM and VPC six wheelers. All were extensively tested by the French Army with the unfortunate result that none, but the VUDB reconnaissance car, were retained. The only contract awarded was for fifty VUDBs. Finally, the French Army adopted the Panhard, Type 165/175 TOE, of which twenty-eight vehicles were built from 1932 onwards.

Parallel to the design and development of new models, a modernization program of the old White (1918 vintage) armored cars had been undertaken. By 1932-34, ninety-nine samples were modernized by fitting their armored body shells on a new 50 hp Laffly chassis. The resulting vehicle became designated as Auto-mitrailleuse White-Laffly, type 50 AM.

In 1931, the French Cavalry set up a new specification program for three classes of armored vehicles, two of them actually being tanks classified as 'autos-mitrailleuses' to bypass the Infantry monopoly on 'chars', or tanks.

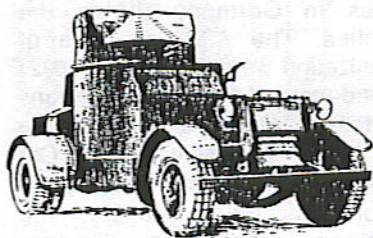
- the AMD (*Auto-mitrailleuse de découverte*) was a fast wheeled vehicle, in fact, a classic armored car which could perform road-bound, long range reconnaissance missions.

- the AMR (*Auto-mitrailleuse de reconnaissance*) which could be either wheeled or tracked, was intended for cross-country reconnaissance.

- the AMC (*Auto-mitrailleuse de combat*) was a tank capable of engaging hostile combat tanks.

The existing types were incorporated into the new classification, accord-

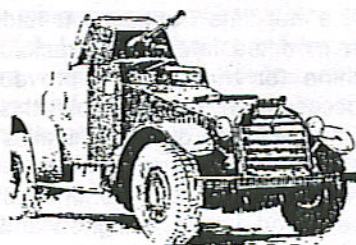
ing to their characteristics: the White-Laffly (50 AM) and the



Above: AMD White-Laffly

Panhard 165/175 TOE became AMDs, the Citroën-Kégresse (P.28) became an AMR, while the Schneider (P.16), M.1929 fell into the AMC category.

The immediate result of the 1931 program was to hasten the obsolescence of the half-tracked types of armored cars and push on the development of several new wheeled models. One of them was the Laffly (80 AM) (sometimes called Laffly-Vicennes) of which twenty-eight were ordered in 1932. Another one was the Laffly S15 TOE, which



Above: AMD Laffly-Vicennes

was developed for colonial use from the Laffly S15 reconnaissance

vehicle. Forty-five cars of this type were ordered after prototype trials in 1935 but were not delivered in North Africa before the first half of 1939.

During the same period, Renault developed and produced a full range of Cavalry tracked vehicles, either for reconnaissance or combat purposes: AMR-35 (VM), AMC-34 (YR) and AMC-35 (ACG1). After the revision of the AMC specifications, they were soon joined by two actual Cavalry tanks: the 20-ton S-35 (SOMUA) and the 10 ton H-35 (Hotchkiss), which were designated as 'chars' and ordered in quantity from 1935 onward.

The year 1935 was a milestone for the French Cavalry which began to take delivery of modern armored cars. Experience gained with their Type 165/175 TOE had led Panhard to design their so called Voiture spéciale 178, a four-wheel drive armored car which was adopted as the AMD-35 and built in large quantities.

A new design, the so-called Gendron - Poniatowski first emerged in 1934-35 as an AMR which could run at will on four or six driven wheels, depending if operating on roads or across country. However, ideas were being revised again, and led to the AMD and AMR categories being merged into a new 1938 program for an auto-mitrailleuse puissante, with thicker armor. An eight-wheeled model (Fromajet), the first of that kind evolved in France, also appeared in the form of an uncompleted

Below: Gendron-Poniatowski (SOMUA)



prototype. Panhard followed in 1939 with their eight-wheeled Voiture spéciale 201, which could be used either on four (roads) or eight (across country) driven wheels. The prototype was thoroughly tested in 1938-40 and considered as very promising. The Gendron - Poniatowski was adopted as an interim AM-39, to be produced by the SOMUA company, while the Panhard 201 was accepted as the AM-40 P. Unfortunately, it was already too late to have them in production before the Second World War broke out.

On 2 September 1939, the French Cavalry deployed 219 modern AMD-35s at home, while some 163 vehicles of outmoded type were used for training and other purposes. In North Africa, there were 252 wheeled armored cars of the earlier types, almost all worn out.

In May 1940, the French cavalry consisted of:

- five DLCs (*Divisions Légères de Cavalerie*), each with a nominal strength of sixteen AMD armored cars, sixteen AMC tanks and twenty-three AMR tanks.

- three DLMs (*Divisions Légères Mécaniques*), each with a nominal strength of forty-eight AMD armored cars, ninety-six S-35 and ninety-two H-35/39 tanks, and sixty-nine AMR tanks.

- seven GRDIs (*Groupes de Reconnaissance de Division d'Infanterie*), each with a nominal establishment of sixteen AMDs and twenty AMRs, or tanks.

On 10 May 1940, the German Panzergruppen, each consisting of two or three armored divisions heavily supported by dive bombers, swept through Belgium, Luxembourg, Holland and France, according to the Blitzkrieg tactics put forward by General H. Guderian. The best of the French motor-mechanized Cavalry—the three DLMs—moved into Belgium to perform the role of a strategic advance guard for the left wing of the Franco-British armies. During the following June, the French High Command raised two more DLMs, from elements of

disbanded DLCs and GRDIs, amalgamated with newly organized units and the latest AMD-35 production runs. No less than 310 such armored cars had been built by Panhard from 1 September 1939 onwards. However, ill-employed in a piecemeal fashion and ill-supported, both French cavalry (DLM) and Infantry (DCR) armored formations were broken and France collapsed on the 25th of June, 1940.

With the fall of France, the Germans captured an impressive war booty of French armored vehicles. Amongst them were many AMD-35 armored cars, which were incorporated as Panzer-spähwagen P.204 (f), the 'P' standing for Panhard and the (f) for *französisch*. Some 150 vehicles of that type were pressed into German service, and a number were converted into Panzer-Eisenbahndraisinen, or railway armored cars. Most served with SS-Police units, for various occupation duties against Soviet guerrillas.

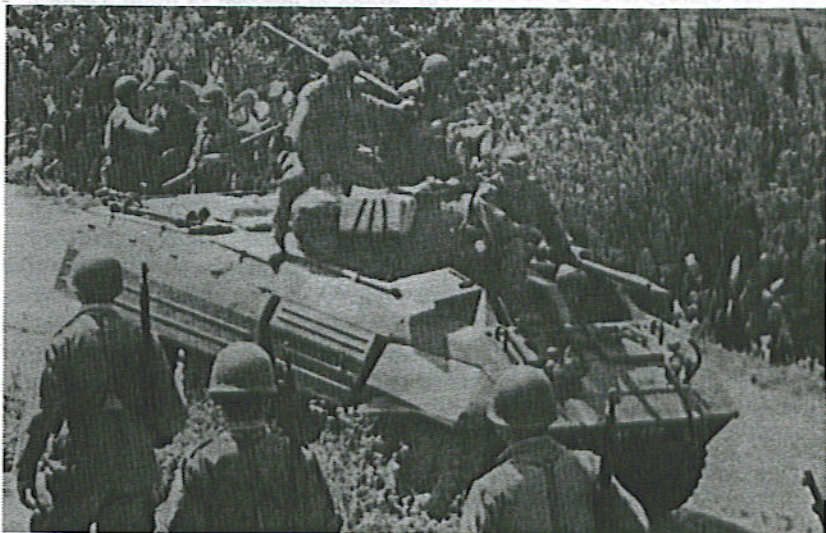
Surprisingly, the development of French armored cars was not put to an end with the German occupation of the country. Some officers of the CDM (Camouflage de Matériel) department of the so-called "Armée de l'Armistice" designed and built a 47mm gun turret for the few stripped off AMD-35s left by the Germans at the disposal of the puppet Vichy government. At the request of Colonel (later General) Mollard, a more ambitious program of converting over two hundred 4x4 GMC commercial trucks into armored cars

Photo via: James Loop

was decided on in 1941. Production started in secrecy in 1942. The vehicles were left unassembled and modified chassis, armor plates, turrets and armament were hidden in various locations, such as caves, cellars, old buildings and barracks, awaiting the opportunity to be assembled and used against the hated enemy. Unfortunately, most of this material was discovered and seized by the Germans.

On the other hand, the Free French forces fighting in Africa on General De Gaulle's account were supplied with South African-built Marmon-Herrington Mk III armored cars. Improvised armored cars built on Dodge chassis were also used and attempts were made to convert some Citroën 11 hp touring cars into armored vehicles. After the landing of the American Army in North Africa, arrangements were made by the United States to equip the Free French with modern American material, including (Ford) M8 and M20 six-wheeled armored cars. After the war, and as a stop-gap measure Panhard resumed the production of the Type 178 armored car, in the form of a "B" model fitted with a new, larger turret mounting a 47mm gun. This vehicle remained in service, mostly in Indochina and in Africa, as late as 1960 (for a span of twenty-five years).

Below: French Army operated M8 in Algeria, 1956.



For Your Information

Correct identification. Regarding the Colombian halftrack converted to a 4x4 scout car that appeared in AC#21 (page 10), Gary Hoyt phoned up and pointed out that the vehicle was actually an M2, not an M3 as stated, the identification being the set of swing up doors just forward of the rear wheels.

Updated cost. If you send for the Marcle Models "Masterpieces in card" catalog, the current price is £2 or 6 IRCs. A copy of their quarterly newsletter "Cutting Remarks" can be obtained by sending 2 IRCs (UK 2 x 1st class stamps). (See last issue for Marcle Model write-up and address -ed)

Reader discount. Ronald Muir, Bellrock Models, 29 Bellrock Avenue, Prestwick, Ayrshire, Scotland KA9 1SQ, GREAT BRITAIN, has offered a 5% discount to subscribers' when they mention AC with their order. It would be worth your while to write Ronnie and find out more about the offer, and what kits he carries. His latest list showed 22 manufacturers.

New listings. The World War II Historical Society, 218 Beech Street, Bennington VT 05201 has updated their list of World War II Historical Journal issues. If your interested in the World War II era, it would be worth your while to write for further information.

Military Videos. For all you video fans out there, here's a source for military related videos. Write John Seburn at Vintage Video, PO Box 551, Greencastle, PA 17225 and ask for his latest catalog (my issue has over 38 pages of videos).

New publication. If you have any interest in the mid-east or Lebanon, Syria and Israel, you really need to check out *Civil Wars*. A bimonthly newsletter produced in Lebanon, from armored cars to tanks and unit histories, *Civil Wars* contains material that you won't find anywhere else. Remember that this publication is being done in an area where

fighting is still going on, so don't expect wonderful reproduction. What you will get is outstanding information. Subscriptions for 6 issue (1 year) are £11 or \$17 (US). A sample can probably be had for \$3 (or a really nice letter). Write: Moustafa Assad, P.O. Box 246, Sidon, LEBANON.

New Zealand Update. Peter Cooke and Peter Locke are working hard on finishing their book Fighting Vehicles and Weapons of Rhodesia 1965-80. Hopes are to have the publication finished soon. You can write Peter Cooke for details at P&P Publishing, PO Box 9724, Wellington 6001, NEW ZEALAND. While your at it, include 2 IRCs for a sample copy of *Tank TV*, you'll be glad you did.

Letters

Photo collection for sale, information wanted. I'd like to let other readers of AC know about my collection of military photographs that are for sale. Most are from veteran's albums and include vehicles, aircraft and ships; many nations, pre-WWII, WWII and modern era, including Arab-Israeli conflicts. I even have a 105mm brass shell casing for the discriminating collector! A free list will be sent to all who write me.

Also I am looking for information on the 1940 Campaign in France. If any readers in Britain or France can help me, I am interested in trading with books, magazines, photos, etc., in areas of interest to them. Dana F. Lombardy, 574 Benfield Road #134, Severna Park, MD 21146-2530.

Response to reader inquiry in AC #20 (page 9) concerning a German 8x8 TPZ-1 built for the Netherlands. Concerning the 8x8 TPZ-1 "Fuchs", this vehicle was tested with the turret from a YPR-765 mounting a 25mm Oerlikon gun and an extended body and extra set of wheels. Intended as a possible replacement for the DAF YP-408 8x6 APC, the prototype was tested together with other candidates. The

project was stopped because of concerns for standardization and the YPR-765 AIFV (tracked) was chosen to replace the YP-408. The YPR-765 was already in service with the royal Dutch Army where it had replaced the old AMX-VTT. I asked the Ministry of Defense, army service for purchase and testing of new equipment what happened to the vehicle? Their response was that after testing the prototype had been destroyed. Hans Heesakkers, Akkerstraat 2, NL-5061 DE Oisterwijk, THE NETHERLANDS.

Request for help. I am looking for help and would like to ask the readership if they have access to accurate scale drawings of the following:

- Belgium - Automitrailleuse S.A.V.A. 1914
- Autocanon 37mm Mors 1915
- Britain - Jeffery Quad Armored Car 1915
- Seabrook Armored Truck 3 pdr 1915
- Pierce-Arrow Armored Car 3 pdr 1916
- France - Autocanon 37mm Renault 1914
- Autocanon 47mm Renault 1916
- Autocanon and Automitrailleuse Peugeot 1918
- Germany - Panzerkraftwagen Daimler/15 1915
- Panzerkraftwagen Ehrhardt/17 1917
- Schpo-Sonderwagen VP-21 1920s
- U.S. - T4(M1) Armored car circa 1930s

I would say that this represents the "short list" as most other items have been done in *Tankette*. However, I am curious as to what has shown up in some of the Western or Eastern European publications. I seem to remember that some unusual subjects have shown up from time to time, but as you might expect, no one can keep track of it all.

Also I will be the U.S. distributor for the 1/76 and 1/35th scale kits from C.A. Atkins, under the name Regimental Miniatures, a catalog will be available shortly for a SASE. Kerry J. Brunner, 1152 Kavanaugh Place, Wauwatosa, WI 53213.

German WWII Armored Cars. I am a subscriber since AC #1, and as I was putting the last issue onto the shelf with the others I recognized that my special field of interest (armored cars used by the German Wehrmacht 1919-45) have been very much neglected. I will renew my subscription for 1994 and hope that we will see something about German armored cars. Enclosed you will find two photos which I received from Russia. Heiner F. Duske, Nikolaus-Otto Str 10, 24536 Neumünster, GERMANY.

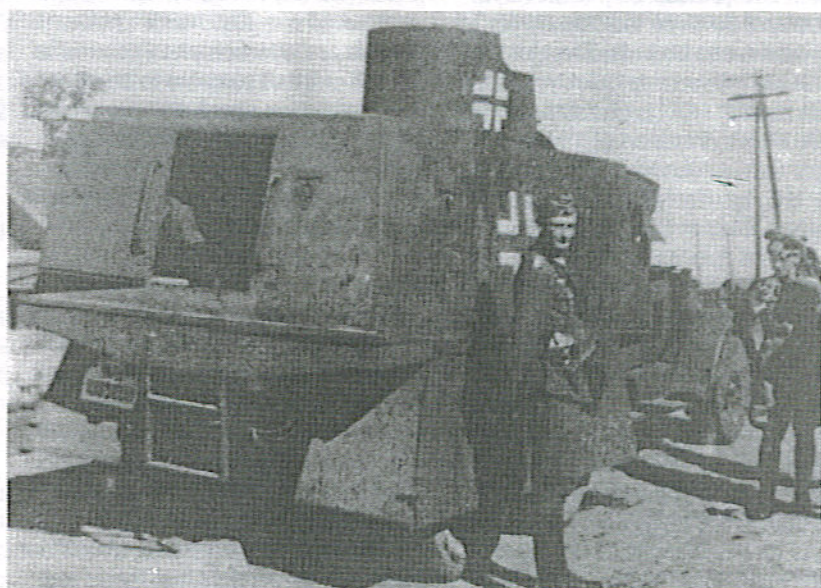
(I think Heiner's remarks deserve some clarification as to the direction I've been taking AC. The contents of AC is driven by two engines; first is the material submitted by the readers [which is most of the material] these submissions reflect the interests of the writer, and so far no one has submitted an article on WWII German armored cars. The second driver of articles is my own interest which happens to be on modern (post-WWII) vehicles. Not that I don't like all periods, just that my collection tends to be heavy with information on later vehicles. Also I don't want to run any subject that has been well covered in other publications.

A perfect example of new information on the WWII period are the photos Heiner included with his letter. I was so impressed with the vehicle that I

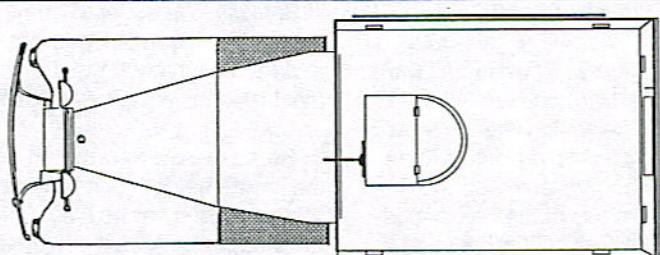
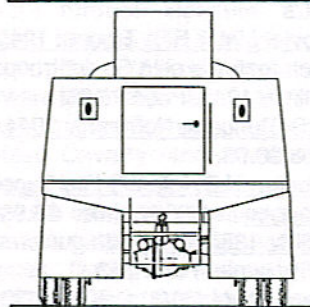
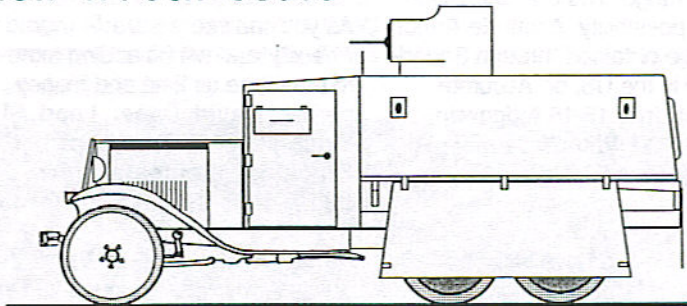
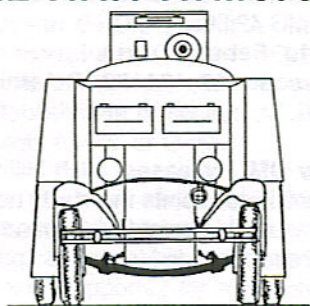
took the time to generate a provisional 1/76th scale drawing to go

along with the photos, both of which are reproduced in this issue. -ed)

Below: GAZ-AAA Armored Truck with at least two GAZ-AAAs being loaded with troops. Bottom: Photo was probably taken during late 1943 - early 1944 in Russia. German unit may have been on anti-partisan duty.



GAZ-AAA Armored Truck 1/76th scale



Provisional drawing. © David R. Haugh, March 1994

Hobby News from the U.K.
Readers may be interested in some developments here in the U.K. It would seem that 1994 will be the year of the armored car, as at least three companies will be releasing British vehicles.

C.A. Atkins Ltd., is no stranger to AC, as several of that companies 1/76th scale pewter cast models have been reviewed. However, last October ('93) "Tommy" Atkins began work on the on a Humber Mark IV in 1/35th scale. As I write this, the master model is 90% finished with just the final details to be added. This first 1/35th kit should sell for about £45 (\$68.50 US). It will have additional parts so that the earlier Mk III version can be built. The Humber Mk II will follow fairly quickly with the next new kit most probably being the Rolls Royce/Fordson of 1940 vintage. C.A. Atkins kits will be sold in the U.S. by Kerry Brunner. (See *Kerry's letter in this issue -ed*)

Accurate Armour will be releasing several resin kits of British armored cars during the year, the first two kits due in March. Kit #K.55 is the AEC Mkl heavy armored car and will be priced at £54 (\$82 US). The second kit #K.57 is the Daimler Mk I armored car. This one is priced at £49.75 (\$75.60 US) and will include parts for the standard 2 pdr, 3" CS and "Little John" versions. Later in the year the company intends to add the AEC Mk II/III, and the Daimler Mk II to their range. The Daimler "SOD" is also a possibility. Accurate Armour kits can be obtained through Squadron Shop in the US, or Accurate Armour at Units 15-16 Ardgowan Street Ind Est, Port Glasgow, Scotland, PA14 5DG, GREAT BRITAIN.

Cromwell Models have in the past listed several British armored cars, but as I write only the AEC Dorchester is available in 1/35th . Last year Cromwell purchased the master of a Marmon-Herrington Mk II for their range, which was previously listed by Lead Sled. I am told that this kit will be available shortly. There is no news of the Staghound series or the GMC Otter Mk I and I feel that these may have been dropped since they were first listed in 1991. The address is 39

Kirkpatrick Street, Glasgow, Scotland, G40 3RZ, GREAT BRITAIN, kits can be ordered by credit card. **Phil Greenwood, 7 Brookland Road, Bridlington, North Humberside, YO16 4EZ, GREAT BRITAIN.**

Production notes from Lead Sled. I understand Rich Sullivan of R&J Enterprises has sent details of our latest release, the 1/24th scale Humber Scout Car Mk I (AC#21 page 10). Given that the kit has only been on release for a month, I am very pleased with the customer reaction.

The next item to be released in this scale (1/24th) will be the Daimler Mk II armored car. The master patterns for this are now complete as are the decals. All that remains to be done is the instruction sheet and production molds. Also underway in this scale are the Humber Mk IV Armored Car, Humber Light Recce Car Mk IIIA and a Universal Carrier.

In 1/35th scale we will later in the year release both the Humber Scout Car and the LRC Mk IIIA as well as further Morris trucks. In the case of these last mentioned there will be a Morris CDSW LAA Tractor to go with our existing Bofors 40mm gun, Morris CDSW Breakdown, Morris C9 Bofors S.P. Gun and Morris C4 Radio Truck, this last will include an interior of the radio shack. All of these are under way with release of some during 1994 and some during 1995.

As you can see we are 'Armored Car Friendly' and will be adding more ACs to the range as time and money permit. **David Cass, Lead Sled Models, 1F Nutts Lane, Hinckley, Leicestershire LE10 0NT, GREAT BRITAIN.**

Italian Armor. As you know the Italian Army was deployed last year in Somalia. We suffered some casualties due to the guerrilla forces and the Italian contingent used the most modern equipment available.

Between the many armored vehicles the most interesting is the Centauro (8x8) armored car built by Fiat-Oto (AC#12 page 7). Just now I have ordered a 1/35th scale model of the vehicle. Other models from the same Italian firm (MS) are: M113 VCC2,

M113 Camillino, both used in Somalia by the Italian Marines of the San Marco Battalion. AB 41 in two versions: one is fitted for roads and cross-country, the second is a railway version widely used during WWII by ourselves and the Germans to patrol the Eastern Front. Another model that may interest readers is the Lancia IZM from WWI. **Armando Rossi, Casella Postale 43, 41010 Saliceto Panaro, Modena, ITALY.**

More on Italian Armored Cars. I'd like to add some notes about the Fiat 6614 article (AC#17 page 4 & 5):

1. The Fiats used by the Italian Army in Lebanon in 1983 were painted white, but did not carry UN markings because it wasn't a UN mission.
2. The Somali clans made extensive use of Fiat 6614s before Operation Restore Hope. Some Somali vehicles were painted sand with green stripes done by brush (as seen on TV news).
3. The Italian Army in Somalia uses 30 Fiats, some lent by the Italian Air Force. The FN Minimi machineguns were substituted with the Browning .50 caliber HMG. Some Fiats have large adhesive Italian flags on the side above the rear wheels. The crews at first were paratroopers, substituted in September of '93 by "Bersaglieri".
4. The Italian contingent of the UN mission in Mozambique uses 20 Fiats painted white with NU (Nações Unidas) markings. The crews are "Alpini", and the vehicles armed with the MG 42/59.

Carlo Sabatino, via L. Cassese 12, 84122 Salerno, ITALY.

New DML releases. Mich Miller at Marco Polo Imports wrote with new releases of interest to AC's readers. To be released in March and April:

- DML's
- Soviet Motor Rifle Troops, 1945 which features elite Soviet troops in Berlin in 1945. Price \$6.98.
 - U.S. Rangers, Normandy 1944. Price \$6.98.
 - Modern U.S. Infantry Fire Support Weapons in 1/35th scale. \$6.98.
 - SdKfz 138/1 Grille with gun crew in 1/35th scale. Price \$43.
 - Panzer IV L/70(A) SdKfz 162/2 in 1/35th scale. Price \$29.98.

Reviews

TankMaster's Panzer -Wagen "Ehrhardt" M1917

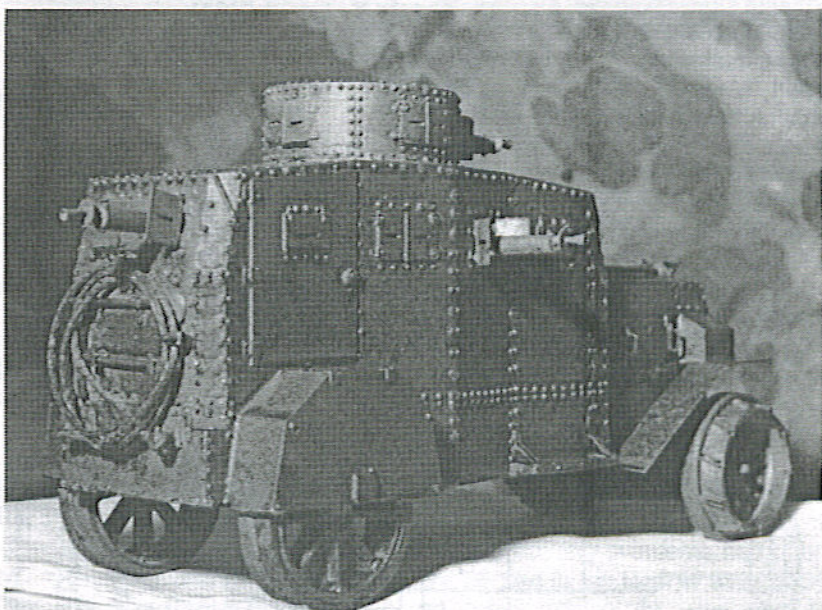
Reviewed by
John Rauscher



The dawn of the Twentieth Century was met with a copious helping of new innovations in warfare. Automatic weapons, aircraft, airships and automobiles all loomed as options for military exploitation. Germany at this period arguably possessed one of the world's strongest and most experienced armies.

The development of German armored cars began in 1906 with the Ehrhardt BAK (*Ballon Abwehr Kanone*), actually an armored anti-aircraft platform. Ehrhardt had a single armored car tested in the United States, but there was little interest. By the outbreak of WWI in 1914, Germany had no armored vehicles in service other than a small number of the BAK, tractors for artillery towing, and an assortment of other BAK-type vehicles. The Chief of the German General Staff ordered a number of armored cars in October 1914, and Daimler, Bussing, and Ehrhardt (the Ehrhardt M1915) all produced enough vehicles for a test unit on the Alsace and Rumanian Fronts in 1916.

These cars proved valuable enough for further production of 2 Daimler and 12 Ehrhardt vehicles in 1917. The 1917 Ehrhardt was an improved version of the M1915 model, with the addition of dual rear wheels protected by partially armored wells, armored headlamps, a serrated grouser-type extension mounted on each front wheel, horizontal armored louvers on the radiator, and 7 machine guns. This vehicle held a crew of between 8 and 9 men, and complaints of cramped quarters were frequent, especially if the field radio was mounted (only operable when stopped). The Ehrhardt M1917 was powered by an 85 hp engine that drove both axles.



Above: Completed Ehrhardt. Photo: John Rauscher

The kit of the Ehrhardt M1917 from TankMaster is their second venture, with their first kit already available (*Samochna Pancerny Ford*), both are in resin, white metal and brass.

The Ehrhardt is a good, basic kit with some surprising detail in the form of many rivets across the large hull, the etched brass sheet for armored louvers, fenders, hatches, handles, etc... and white metal machine guns, tools, wheels, suspension and more.

Next, because I didn't have any measurements of a real vehicle, I compared my photo references with the finished kit, and decided that my TLAR criteria were met (*That Looks About Right*). Last I thought out the various parts, and questioned some of their use of materials and found some deficits that I thought one would have to correct. I built the kit in about 7 hours, and only did some minimal scratch work on kit omissions.

The kit comes in a white box with cartoon type illustrations, two sheets (a four view and exploded diagram), and 34 resin and white metal parts, and an etched brass fret.

The assembly process was straight forward, so I'll outline it and some of the extra work needed. The hull comes in three pieces; Engine, Main Hull and Turret. I used epoxy cement to join the engine and hull, by coating both surfaces and joining them and

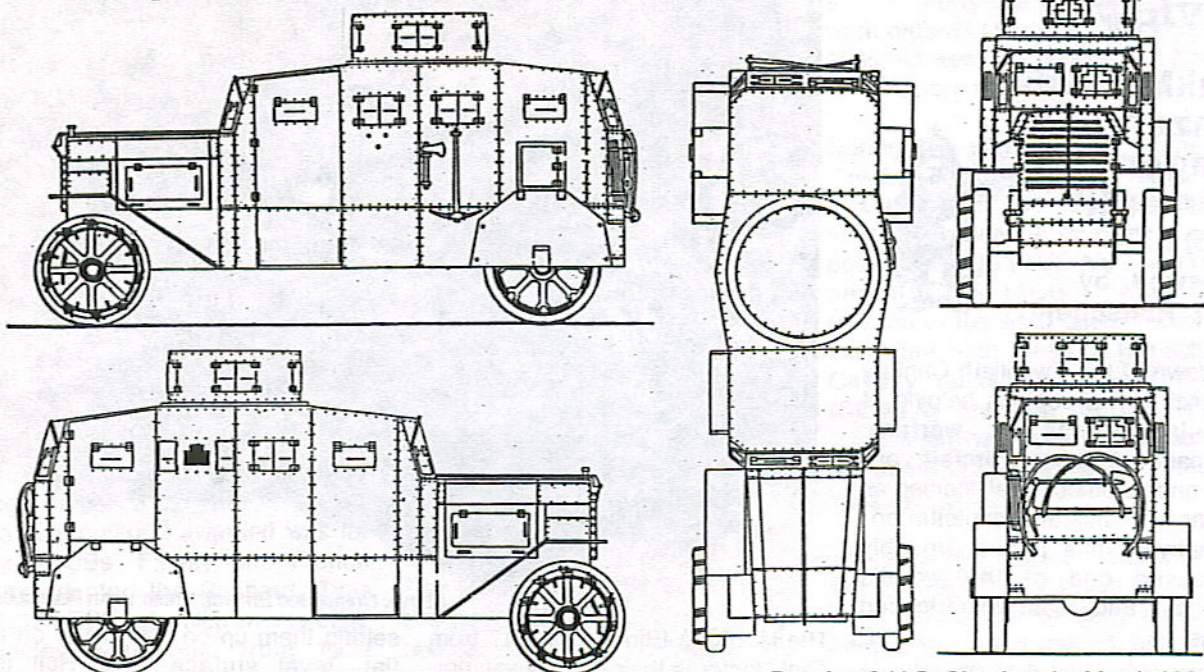
setting them up on wax paper on a flat, level surface. The Hull is interesting, as it is a dark amber resin with a core of expanded foam for filler (using less actual resin!).

The turret needed to be sanded level, as one side was higher than the other. Be careful not to sand off rivets. About 1/4 of all the rivets needed filling, as they had formed air bubbles in curing. The open hatch areas for the machine guns are very shallow, and I drilled out 5. Several of the vision slots on the molded closed hatches had to be drilled or chiseled out, as some of them were partially blocked. Last, most all of the locating holes for the white metal and etched brass parts needed drilling out.

Allow the two hull parts to dry thoroughly, then epoxy the turret to the roof (after sanding even), and be sure to line up the gun ports on a north south, or front rear axis. Allow it all to dry for at least 24 hours I sanded the entire hull bottom on a flat surface, and filled any holes to insure a completely flush surface, as the rear wheels depend on this later.

I next built the armored grill louvers, a 10 piece sub assembly of all etched brass parts. Taking the center rib, start from one end and, using a dab of C.A., notch the louvers in. I used slow setting C.A. throughout, and also made frequent use of accelerator. Use the glue sparingly, as the glob really show up!

Panzerwagen Erhardt M1917 in 1/76th scale



Drawing © V.O. Shpakovsky March 1994

Glue the louvers to the front of the radiator, making sure the extended arm on the center vertical rib is on top! Next, glue on the radiator cap, and fit the remote rod for adjusting the louvers into the front of the windscreen. There should be a hinge assembly part for attaching the top of the Louvre rib to this rod, but my kit was missing it, so I found a little glob of white metal flash that fit the bill and glued it in between the rod and the top of this center Louvre rib extension.

With the drawings as a guide, I had already drilled out all the locating holes, so next I attached the front springs (after having placed the towing rings on each) and axle (which simply rests on the bottom of each spring!) I carefully drilled out the front wheels to accept this axle. Next I glued the rear dual wheels to each armored wheel well. These were the areas I had to fill and sand earlier. With that done, I trimmed the brass fenders, careful to retain the pins, and glued them on their respective sides, placing the armored headlamps on the front - Be careful to place the hinged edge in, with the slope out toward the wheels.

I glued in the starter crank, Maxim guns, rear towing hooks and tools next, using the drawing as a guide.

For the tools, I used what I guessed were the right parts from the brass fret - this was pretty confusing, as there were no reference numbers to go by, and the drawing shows straps on the tools (while some were molded on, more were needed to match the guide). I found some picture hanger wire, drilled out the towing cable lugs, and looped the cable from one rear hook, around the tools, and back to the opposite hook. I also fashioned some retaining clips from lead foil here.

I attached the white metal screened runner boards, and added lead foil braces. Last, I cut out all the armored visors, bent them over their hinges - detail out - and super glued them to the hull around each gun.

The most tedious part was this last step - gluing the etched brass grab handles on the hatches for the engine and tool box on the left rear fender. These too, are the parts I thought would be better represented in white metal, as they are only two dimensional - actually this is a pet peeve with all the companies whose etched brass sets try to do handles in brass - Come On folks, the brass sheet cannot compensate for fatness of a tubular structure!!! I did it anyway, 'cause this was a kit review, but in future I will always use

brass rod, wire or plastic rod.

I painted this monster in dark grey, washed it in black as the photo shows), and have yet to dry brush it with successive shades of grey and paint white squares with Maltese Crosses, but that's what I'm going to do. I have also seen a drawing of a three color stripped camo scheme with no insignia. This kit is a good representation of the real vehicle, and fits a sorely missing niche in armored cars. It would work up into a great WWI diorama with Scale Link brand figures and accessories! Its priced around \$85.00.

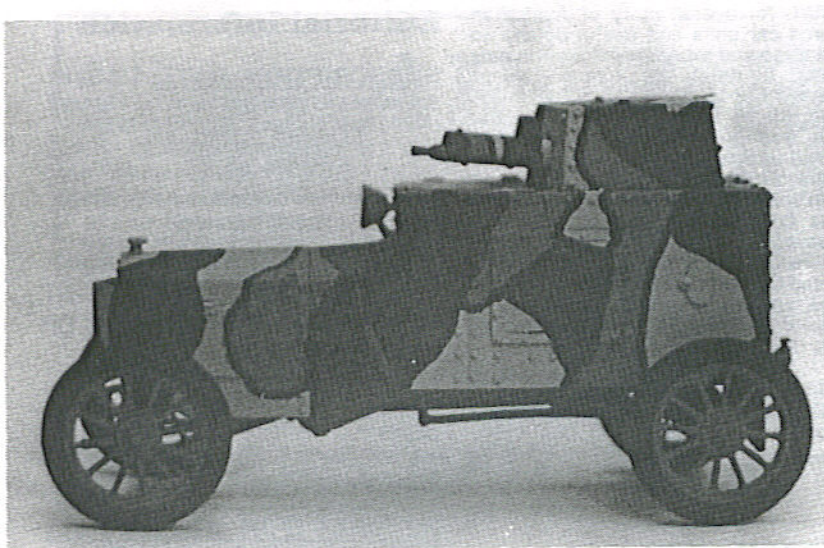
References:

Tanks and Other A.F.V.'s 1900-18., By B.T. White, Blandford Press, 1970.

Encyclopedia of Armoured Cars and Half-tracks, by Duncan Crow and R. J.Icks, Chartwell Books, 1976.

TankMaster's Samchod Pancerny Ford Reviewed by Paul Bird

This Polish armored car (circa 1920), was based on the very popular Ford Model T chassis, with an armor plate hull and turret. The 1/35th scale model by TankMaster contains 31



Above: Completed Samchod Pancerny Ford. Photo: Paul Bird

parts (resin and white metal); along with a single page exploded view instruction sheet, which also includes a parts list. The box art shows four 1/35th scale views of the camouflaged.

Following the parts list, I did a quick inventory and found six small pieces to be missing.

Two metal parts not referenced in the instructions, were included in lieu of the above. One was an axle, the other a long horn. The box art shows the axle on the left side of the vehicle, so that's where it eventually ended up. The horn remained a mystery.

The tires were in halves, cast in white metal, with delicate spoked rims also in metal (these could have been a bit more robust, but did function as supplied). For tire/wheel assembly I divided up four decently matching tire pairs, trimmed the light flash and crazy glued the pairs together. The spoked wheel rim was then installed.

The resin parts were crisply molded in a dark amber (one piece was green) and were bubble free except on some rivet heads and hinge details. Trimming the overflow off the bottom of the cab, hood and turret parts, without removing the bottom row of rivets proved quite a challenge. The hood and cab pieces were joined together and the white metal vehicle frame was attached to their underside. The front suspension and steering bits were

assembled, with a strip of styrene for the tie rod.

The rear axle/drive shaft and its leaf spring were put on, then two lower armor plates (of resin) were attached to the front and rear of the car. The engine crank handle was attached next, and the undercarriage was completed by affixing the rear brake control arm and the brake tie rod.

I made the radiator cover doors from styrene and detailed them with Grandt line rivets. Eighteen poorly molded rivet heads on the cab, and six on the turret, were trimmed off and replaced with Grandt line ones. I diced up the little freebie horn to make both a radiator cap and a rear light. The turret hook was made from a small strip of styrene, and the machinegun glued to the turret front.

An exhaust system was fashioned out of parts liberated from old models. The exhaust was painted with Testor's Rust and left for later.

The whole vehicle was washed followed by a clear rinse, then left to dry prior to painting. I primed the turret, body and wheels with Testor's acrylic enamel primer (quite new on the Canadian hobby scene), thinned for airbrushing.

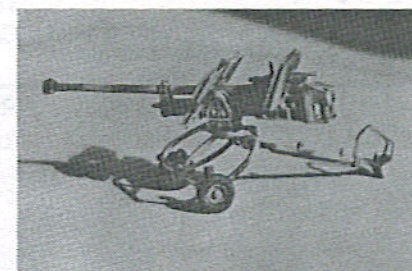
After drying the subassemblies were painted overall with Testor's acrylic enamel Insignia Yellow FS33538. The undercarriage, wheel hubs and first camouflage blotches were painted with acrylic SAC Bomber Green FS34159. More camo

blotches were added with Rust (also acrylic). Though the instructions only called for a three color scheme, the box art shows four; so I painted in some Humbrol Panzer Grey (Matte 67) patches as well. It may not have been totally authentic, but looked pretty reasonable to me.

With a 0.7mm technical pen, I inked in the black lines which outline each blotch of the camo scheme. This really set the whole thing off well. I attached the wheels, headlight, taillight, exhaust system and axle, and there it was, a diminutive 3.5" long, 2" high by 1.75" wide Polish armored car. No markings were provided, though I think they also were supposed to be included. At something like \$24 (U.S.) for a little kit like this, I recommend it highly. It adds a unique dimension to my mostly modern model collection.

(For information on ordering either kit contact: V.O. Shpakovsky, ul. Dzerzhinskogo 35-43, 440061 Penza, RUSSIA.)

Mini Art Studio Panzerbuchse 2.8cm in 1/35th scale Reviewed by Ying Loule



When I first viewed this kit I was amazed at how detailed the tiny kit was. There are 12 resin components, and when handling the small pieces, you must remember to use extreme care. There was a minimum of flash to deal with on this, but on closer inspection I found some mold detail lost when they mixed in the resin. Lucky this loss was minimal.

Assembly was straight forward and simple, but on close inspection I found that what had really reproduced well were the mold seams. When I took a hobby to smooth out the lines I found air pockets under the surface that took some filling with

putty. I was a tad disappointed for such a high price kit.

I replaced the carry handles at the back with brass wire and the gunner's scope. I also undercut the equipment tie downs on the gun shield. Other than that I built the kit straight from the box. Afterward I gave the gun a coat of dark yellow and then a dark green overspray. This was followed with a dark wash and dry brushing. In conclusion the best part was the tiny wing nut at the top center of the gun, really amazing reproduction. Distributed by Vingo Trading Company, 14/F Hang Wai Comm. Bldg, 231-233 Queen's Road East, HONG KONG and retails for \$34.95 in the U.S.

Australian Military Equipment Profiles Volume 3

Australian Scout Cars and Armoured Cars 1933 to 1945

Reviewed by Peter Brown

The story of Australia's own designs of armored cars is not well known outside Australia and maybe not even so well known there! At least now we have a good account of their development. This book covers those vehicles designed and constructed in and by Australia up to 1945, mostly using U.S. and Canadian chassis.

Coverage actually begins with a brief description and photos of cars constructed

in WWI. An overall story of Australian armored car units and useful details on camouflage and markings follow. The cars covered in detail are: Local Pattern Armoured Car LP-1,2,3 and 4 built in the 1930s; Kirsch Improved Armoured Car which was an attempt to provide an armored vehicle using current passenger car chassis; Dingo Scout Car, which was built in some numbers and was not based on its British namesake; Rover Light Armoured Car, more like the early British Light Recce Cars in concept; Rhino Heavy Armoured Car which looked like the Humber or Fox and the Scout Car S1 (American) designed for use by U.S. forces, broadly similar to the M3A1.

Available from Chris Evans Books, FREEPOST, Birmingham B31 1BR in the UK or Portrayal Press, PO Box 1190, Andover, NJ 07821 in the U.S.

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Reader's Photos

Readers are invited to submit photos for inclusion in this feature.

Right: An early South African armored truck, "HMLS" (Her Majesty's Land Ship) OTAZELL. Possibly a Leyland truck, used during the Johannesburg miner's strike in 1922. This vehicle (fielded by the Transvaal Scottish regiment) is in conjunction with a South African Air Force Whippet tank HMLS Union (to the left rear of the armored truck). Photo: J. Botha via Adam Geibel. Adam asks that anyone with more information on this vehicle write him at: 628 Palairet, Philadelphia PA 19128-3108.

