



ARMORED CAR

THE WHEELED FIGHTING VEHICLE JOURNAL



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PRELUDE

The Hungarian military licensing system had existed since about 1920 when some early armor gained Roman style serials. Later this changed and wheeled armor carried serials modified to 'P' or 'Pc', when they had been accepted by the Army after trials. While under test, unaccepted vehicles carried plates bearing 'A' before they received licenses of regular pattern. These took the form initially of 'P' license plates or later still, 'Pc' followed by a three digit number. This abbreviation stood for 'Pancelauto', which translates as armored car in the Hungarian tongue.

After WWI, Hungary gained a number of armored cars including two *Bussing-Fros* machines. From 1920-1927 these vehicles were numbered as PU1 and 2. The 'U' here stands for the Hungarian National Shield of red, white and green placed between the 'A' or 'P', 'Pc' and the serial numbers. It isn't clear if all of the early armored cars actually carried the shield device with their registration. VP gained PU3 during the same period.

Four *Vickers-Crossley* cars (all 1929 models) were registered PU1 through PU4 between 1927-31. The *Bussing-Fros* cars then assumed PU5 and PU6, while the registration PU7 was applied to the *Raba*.

This numbering sequence remained until 1931 when the two *Bussing-Fros* cars were taken out of Army service (these were presumed scrapped). In the same year twelve *Fiat 2Fs* (a combination of four each of the 1929, 1931 and 1932 models) were purchased. These machines were numbered PU5 through PU16. The lone *Raba* being re-numbered to PU17.

In January of 1939, a *Tatra OA vz 30* (Model 1930) known as a T72 armored car was captured from the Czechs. This vehicle was given 'trial' plates numbered AU955 and later received the license PU18.

Restricted by the Trianon Treaty of 1920, Hungary was officially only allowed 12 armored cars which were supposed to be limited to policing duties. In fact, Hungary began to rearm secretly in the early 1930's;

Hungarian Armored Cars

by John Baumann

Below: Csaba with the red/green and white cross. Also visible is the tricolor Hungarian shield on the registration plate.

Photo: J. Baumann



ARMORED CAR

....continued from page 1

but later, this was done openly in defiance of the Treaty. Eventually Hungary produced her own fleet of *Csaba* armored cars designed by Straussler.

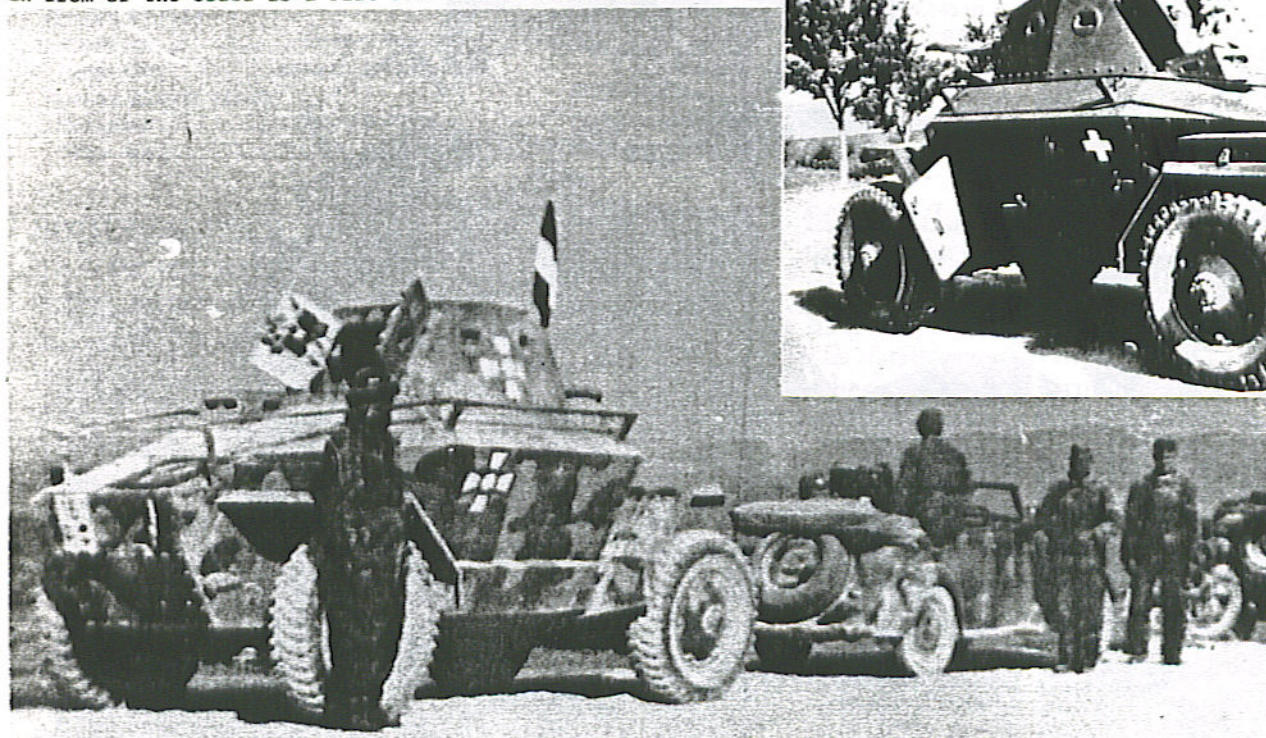
CSABA ARMORED CARS

The *Csaba* story really begins with some 1933 blueprints that were drawn up by Nicholas Straussler. Improved on by the Manfred Weiss factory, a vehicle was constructed on the AC II chassis. By 1935 the AC I and AC II armored cars had appeared. These vehicles were unarmed and served as test beds against foreign offerings.

Three years later in 1938 the War Ministry ordered the *Csaba* rather than face the protracted arrangements of importing vehicles and obtaining the license rights. As a result, the first *Csaba*, designated 39M was produced in June 1939. This vehicle was given the license PU19, the last known number in the 'P' series. The first batch of 'mild steel' *Csaba*'s off the assembly line served satisfactorily in Transylvania during January 1940. Originally PCU101 carried AU012 trial plates which were transferred from the *Csaba* prototype when it gained the PU19 license.

Eventually a second larger order was placed for 135 vehicles. The contract comprised 105 standard and 30 Command models, all of which carried the PCU plates. Later the order was apparently changed and only 93 cars were built. Of these 81 were standard *Csabas*, including the initial 8, plus 12 Command models (Parancsnoki).

Below: Standard *Csaba*, PC161, in September of 1940 during the annexation of Transylvania. The Magyar green, white and red cross is visible on the sides and turret. The car in from of the *Csaba* is a Fiat 508. Photo: J. Baumann



The mild steel batch of cars were registered from PCU101 to PCU108, with the new standard models being numbered from PCU109 onwards to PCU181.

Command *Csabas* seem to have been exempt from the above range of numbers and these ran from PCU400 through PCU411. It was planned to convert/rebuild a further 18 standard *Csabas* into Command versions but it isn't clear whether all were completed. At least one, numbered PCU162 was, as photographs prove, this may have been one of three possible rebuilds. Curiously, it retained its standard *Csaba* registration.

In 1943 the Police force received two standard *Csabas* with 20mm guns. These vehicles were registered RR511-RR512 (RR meaning Rendorseg), their color was a dark blue.

MARKINGS

On Army vehicles, front registration was normally carried centrally across the noseplate, with the rear markings being placed along the top left of the rear hull superstructure.

Up to the summer of 1940, no national markings seem to have been carried on Hungarian armor. *Csaba* PCU101, featuring a lightning flash has been identified as the 1st Reconnaissance Battalion from Budapest. This vehicle has early French type camouflage. *Csaba*'s of this unit also carried the first proper National insignia which was used during the annexation of Transylvania (formerly Romanian territory).

Rarely seen on Hungarian vehicles, it resembled the shape of a Maltese style form, and was called the Magyar (Hungarian) Cross. Cross was white with green edges and a red circle at the center of the cross. *Csabas* in service around September 1940 in Transylvania bear these markings.

Csabas of the 2nd Reconnaissance Battalion from Kosice gained the marking 2F in white and wore the red-green cross (evidence here is based on photographs of armor found in Yugoslavia and Russia circa 1941 which show these early colors). Apparently no German markings were employed prior to October-November 1944.

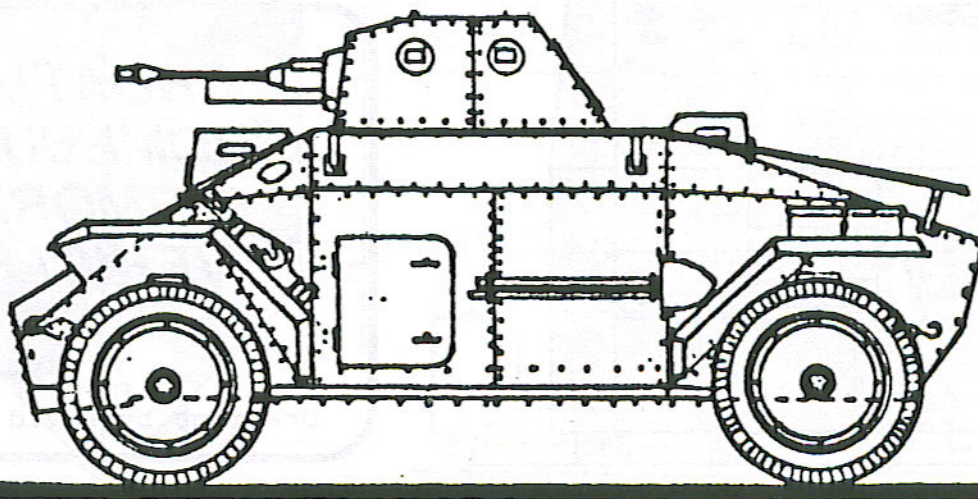
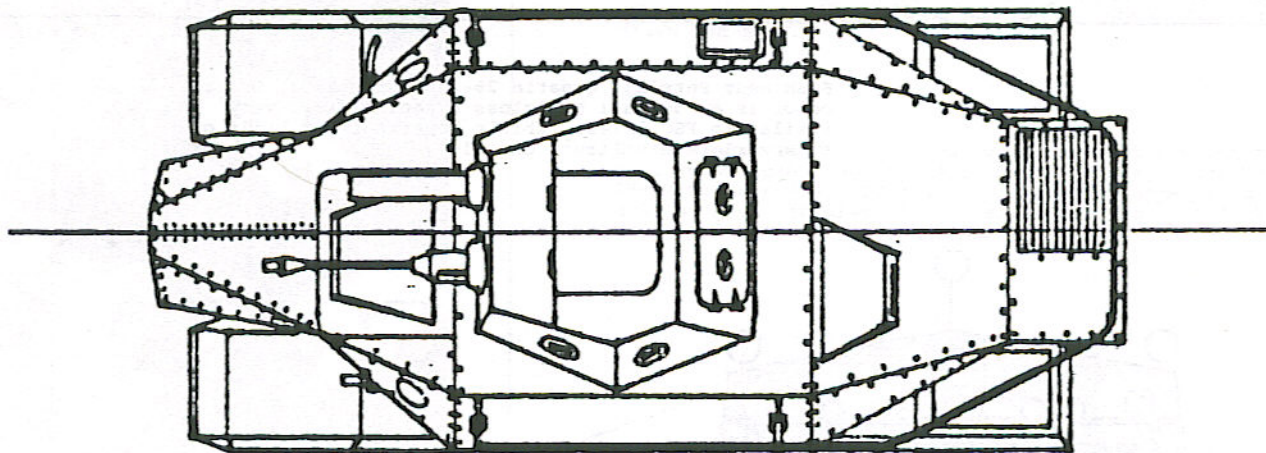
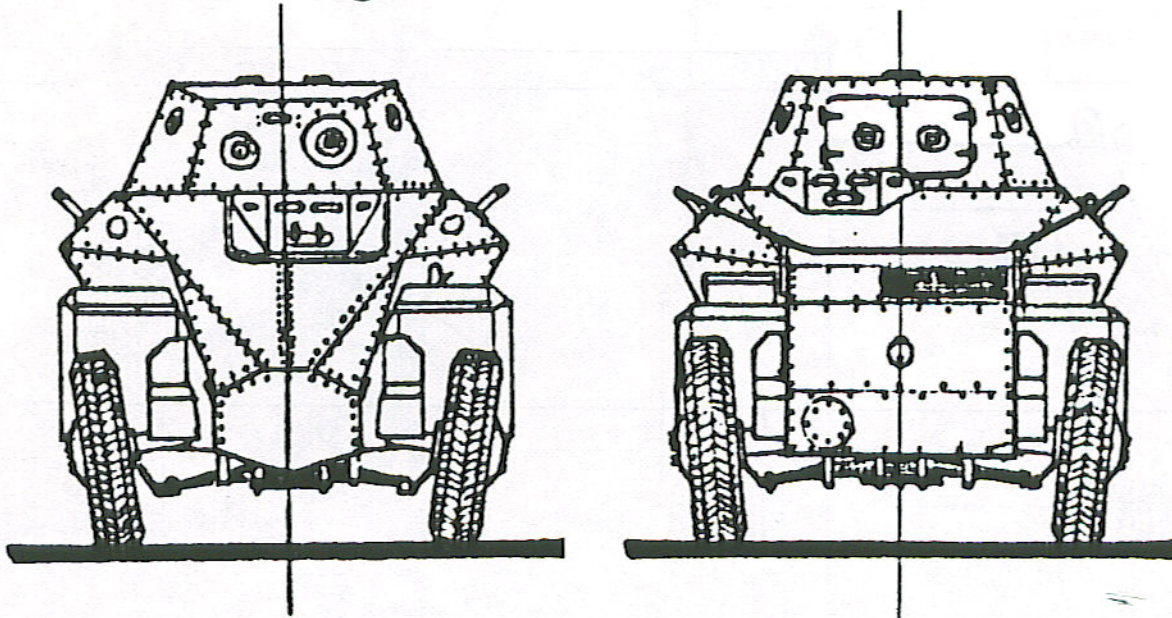
It is possible that the red-green cross made too obvious an aiming point, and that its use was discontinued in favor of the later, and somewhat less obvious, white cross on a grey-black square.

This article is a revision of an earlier piece that appeared in the MAFVA publication *Tankette* and is reprinted with permission of the author. Questions about subscriptions to *Tankette* should be addressed to: MAFVA, 15 Berwick Ave, Heaton Mersey, Stockport, Cheshire, SK4 3AA, United Kingdom. Please be sure and enclose an IRC to help with postage.

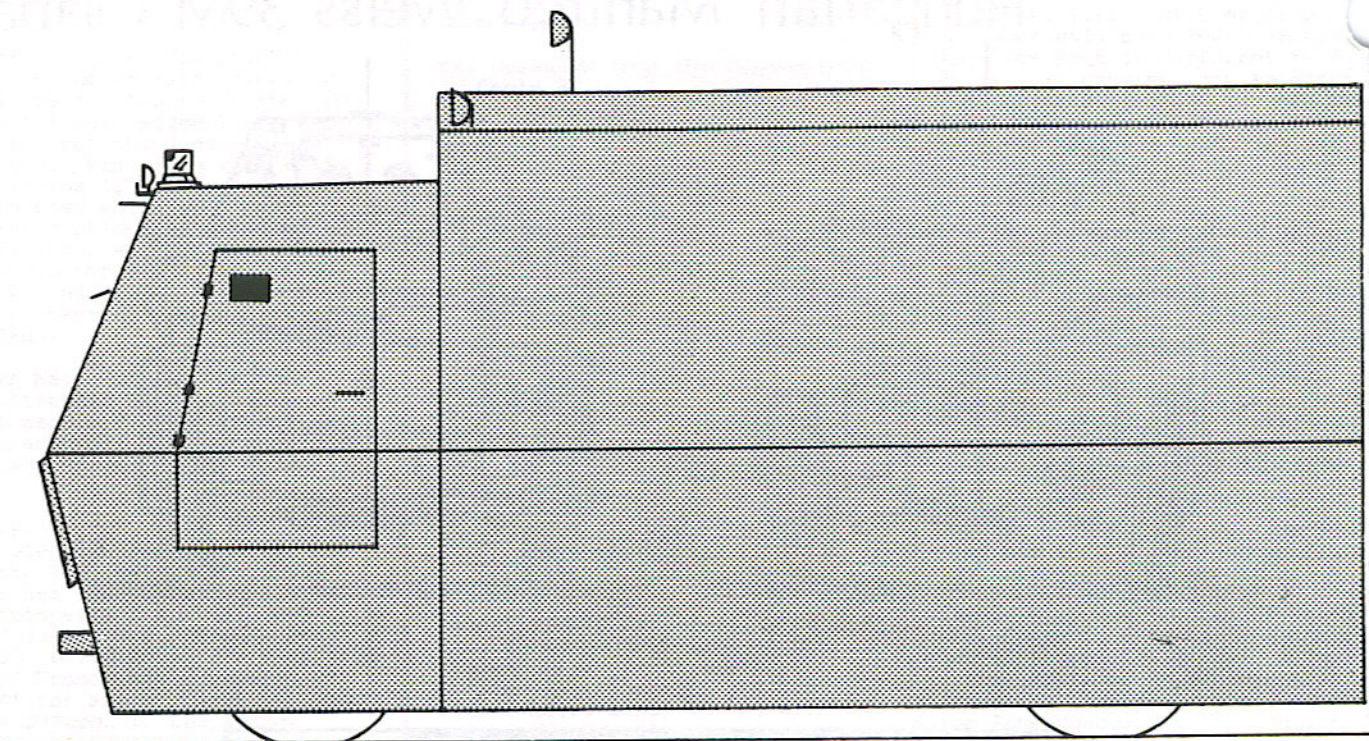
Below: *Csaba* P showing the late war dark grey square with white cross. Photo: J. Baumann



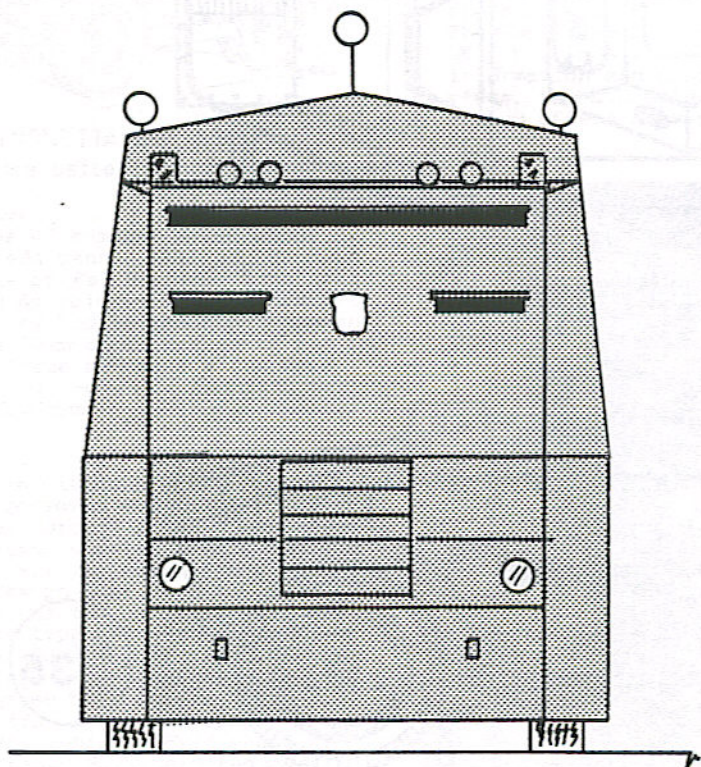
Hungarian Manfred Weiss 39M Csaba



1/35



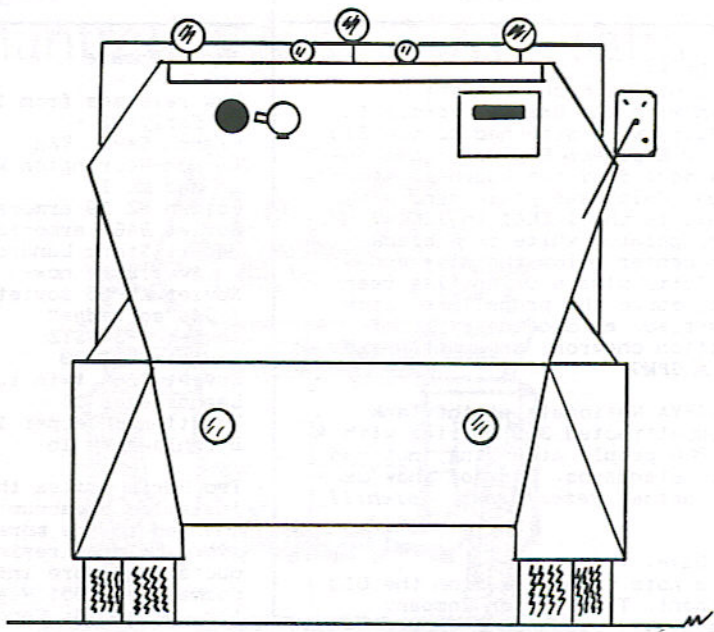
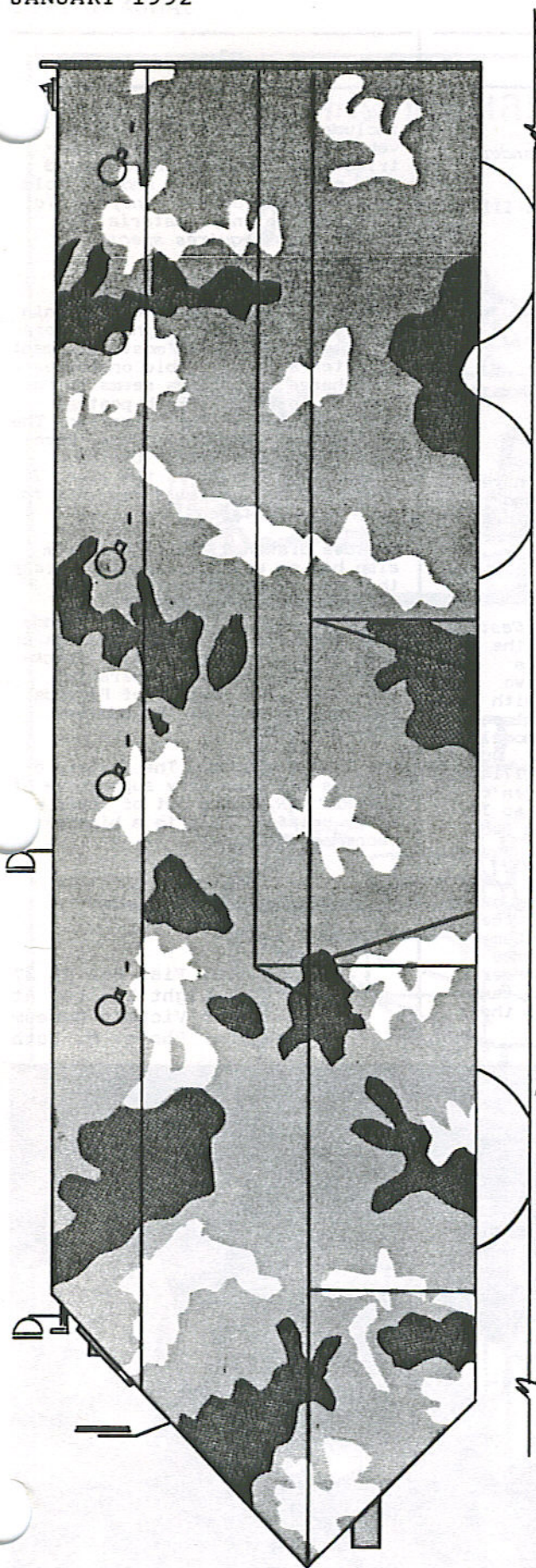
Seen near Petrinja Croatia 26-27 August 1991. Overall color is an overall semigloss greenish-grey, very similar to FSC 34148. Vehicle appears to be built on a two axle medium truck chassis.



CROATIAN "HOMEBUILT" ARMORED VEHICLES

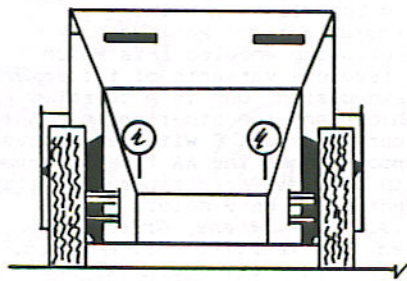
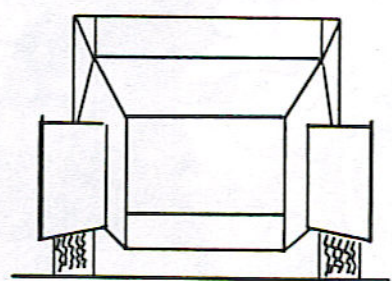
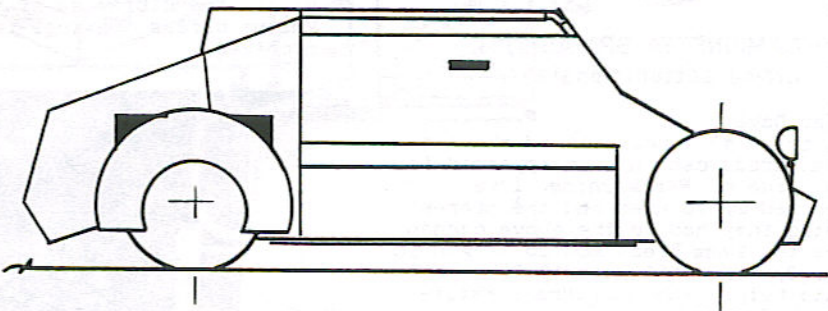
Drawings by David R. Haugh

All vehicles drawn to 1/35th Scale.



Above: Seen on the main highway near Zagreb, Croatia, October 1991. Overall color seems to be a medium green with overpainting of tan and black in random patterns. Vehicle appears to be built on a bus chassis and evidently can carry up to 17 soldiers and hit speeds up to 70 plus miles per hour.

Below: Improved armored car built on what appears to be a Volkswagen "Bug" chassis. Seen near Karlovac, Croatia 29-30 October 1991. Overall vehicle color appears to be a light green or grey with a random pattern of a darker green painted over with a brush.



Letters

Dear Dave:

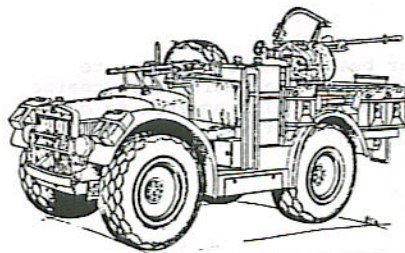
The eight TPz Fuchs/Fox which served with the British forces in the Gulf, were attached to the 32d Armored Engineer Regiment; but the crews were from the Queens Dragoon Guards. Color was plain sand with serials in the 12KK41 to 12KK47 range, painted white on a black strip center below the nose and rear left, plus a Union flag rear right, above the propellers. Stowage varied, as did the style of Coalition chevron, armament was a 7.62mm GPMG.

The MAFVA Nationals at the Tank Museum attracted 319 entries with over 800 people attending, not bad by our standards. Best of Show came from Canada. *Peter Brown, Colehill, UK.*

Dear Dave:

Just a note with news from the Old Continent. The Italian Company Italsedi has released a 1/35th scale Camionetta SPA AS 37. (Address: *Italsedi Snc., Via F. Marchetti 19, 00199 Roma, Italy*) While Azimut of France has scheduled a Fiat AB41 for March of '92.

-*Patrice DeBucquoy, Lez Lannoy, France.*



CAMIONETTA SPA AS 37
africa settentrionale

Dear Dave:

In issue #7 someone asked about a 20mm Breda cannon that appeared in an issue of *War Machine*. I've checked my volumes and the nearest thing they had to the above cannon was the 20mm Breda Mod 35 AA gun in Vol 8, Issue #88 page 1749. Hope this helps. -*Owen Jackman, Waterford, Ireland.*

Dear Dave:

I've been watching news footage from Yugoslavia and they've (federal forces) got two very interesting wheeled AFVs which I believe are variants of the same basic design. One is a turreted AA vehicle and the other an internal security type APC with meshed over windows. Once the AA type appeared with black tiger stripes over its light green base color. -*T. Metsovitis, Athens, Greece.*
(-ed. The vehicles Fyll mentions are probably BOV-1 armored cars, of which there are at least three variants, APC, anti-tank and anti-aircraft)

Plugs

Model Update

New releases from *The Commanders*:

Early 92 -
French Savin VAB
Marmon-Herrington Mk IV, MK III
and MK I

Polish WZ 29 armored car
Soviet BA64 armored car
Desert Storm Landrover

Available now-
Soviet KV-85 Soviet
T-34 "softedge"
Soviet T-34 STZ
Soviet KVII/39
Soviet T26A twin turret
Lagunleger 16
Munitionsschlepper 1a
Befehlswagen 1b

Ted Paris writes that they have installed a vacuum system and changed to the more "traditional" ivory colored resin on their products. For more info write: *The Commanders, 551 Wegman Rd, Rochester, NY 14624. Recommended.*

Latest update from *Quality Castings Inc.* shows new releases of the Italian AS 37 light truck, a Russian GAZ AA truck, and two redone halftracks, the M3 with 75mm gun, and and M3A1 personnel carrier. These are all metal models at 1/108th scale (approx 15mm). *Quality Castings Inc., PO Box 11714, Alexandria, VA 22312. I haven't seen any of QC's products, so I can't make a recommendation -ed.*

PLANS, PLANS, and more PLANS!!!

First off, I'd like to bring everyone's attention to the resources of The Tank Museum, Bovington Camp, UK. This is a wonderful source of information and among other services, the Librarian of the tank Museum offers drawings from their archives.

Plugs

The first list I have on hand includes well over 300 drawings vehicles from 16 different countries. All drawings are selected from official sources and are sold on the condition that they are for personal use only (*material for publication requires special arrangements*).

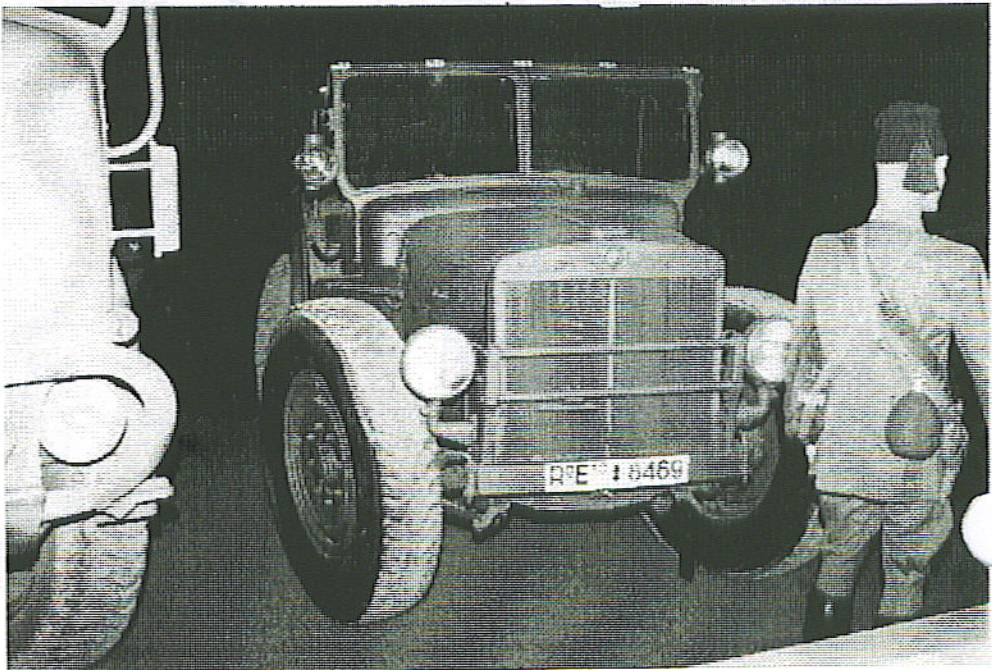
Scales may vary from vehicle to vehicle, and sometimes even within the same set. Photographs and more detailed drawings of most equipment is often also available on request. The charge for copies seems to run from \$1 to \$8 (US) with postage extra. Write to: *The Librarian, The Tank Museum, Bovington Camp, Wareham, Dorset, BH20 6JG, United Kingdom* for a copy of the list. *I would enclose at least two IRCs to help with postage.*

Besides drawings The Tank Museum also has an extensive photo library that can supply resources.

There is also a Society of Friends that supports the museum and has a quarterly newsletter called *Track-links*. Write to the Membership Secretary, The Society of Friends, The Tank Museum, at the address above.

The Tank Museum and The Society of Friends has been very supportive of *ARMORED CAR*, going out of their way to be helpful. This is a highly recommended group!

Below: Fiat Spa TL 37
Light Tractor at
The Victory Museum
Belgium. Photo: M. Roth



Plugs

to here in the U.S., the U.S. Ordnance Museum, Aberdeen Proving Ground, also has a vehicle plans service. Offered in two sizes, full size; and for selected plans, photographically reduced to 1/35th scale. Prices are \$5 per sheet for full size, and \$5 per set for 1/35th. Full size blue print scales vary. All money from the drawings is used for conservation and preservation of artifacts.

The list that I have shows 45 sets presently available, with more to be added. For a copy of the drawing list and more information, write to Mr. Alan Killenger, U.S. Army Ordnance Museum, Aberdeen Proving Ground, MD 21005-5201. Recommended.

1/76th and 1/35th scale military vehicle plans along with resin kits, are available from Model Transport. This is a good source of plans for the wheeled vehicle fan, with over 50 different sets available, all at a very reasonable price. Many off beat vehicles are covered, such as the Somua MCL halftrack, AT105 Saxon, Daimler Benz L3000S, etc.

Model Transport also offers a Spares Box service, with a really great collection of wheels and tires in various sizes for the model scratchbuilder.

haven't seen any of these drawings, so I can't make any recommendations. For further information write: *Model Transport*, 18 Bevan Way, Aylesham, Kent, CT3 3DN, United Kingdom.

Finally I come to Geoff Lacey and his incredible series of 1/76th scale military vehicle drawings. Mr. Lacey has done hundreds of drawings over the years, and is still adding more, with all kinds of subjects being covered from tanks to jeeps. You owe it to yourself to send for Geoff's list.

Write to: Mr. G.W. Lacey, 315A South Lane, New Malden, Surrey, KT3 5RR, United Kingdom. Be sure and include at least a couple of International Reply Coupons (IRCs) from the post office to help with postage. Even more if you want the multipage list sent by air. These drawings are Highly Recommended.

If you write any of the above sources, please mention that you read about them in ARMORED CAR -ed

COLORS.....

One of the hardest things there is to try and describe to another person, is color. Even with two people standing together looking at the same object, you'll get two different ideas as to what to call the color of the object.

One method that seems to be more or less common throughout the modeling

Plugs

community is the use of Federal Standard Colors to define what is being referenced. For those that don't have a set, the cheapest reference is a Fan Deck of colors.

Held together with a screw post, the Federal Standard Colors Fan Deck contains 586 chips of defined colors, each sample measuring 1/2 x 2 inches in size. At only \$7.50 each, these are really a bargain. Foreign mail charges are an additional 25% for airmail postage. Payment must be in U.S. funds.

For further information or to order a set write: General Services Administration, ATTN: Specification Section (3FF-W), 7th & D Street SW Room 6654, Washington, DC 20407. Highly Recommended.

For our overseas readers, if you really want a set of these color standards but can't work out how to get them, write me a letter and we'll see if we can't work something out -ed

News

The German Bundeswehr to retain the BTR-70

While reorganizing its Army, Germany has decided to retain the ex-East German inventory of BTR-70s or as known in the old Volks Armee, SPW-70.

The new territorial forces in eastern Germany will use mostly western vehicles and weapons. One third of the brigades will receive the Leopard 2 main battle tank with the rest using the older Leopard 1A5.

News

The reconnaissance battalions will receive the Leopard 2, and the mechanized infantry battalions will retain the BMP-1 and SPW-1 until the Marder 2 is available somewhere around the year 2000.

Artillery battalions will continue to use the Soviet 122mm D-30 towed howitzer, until the introduction of the standard M109G SPH.

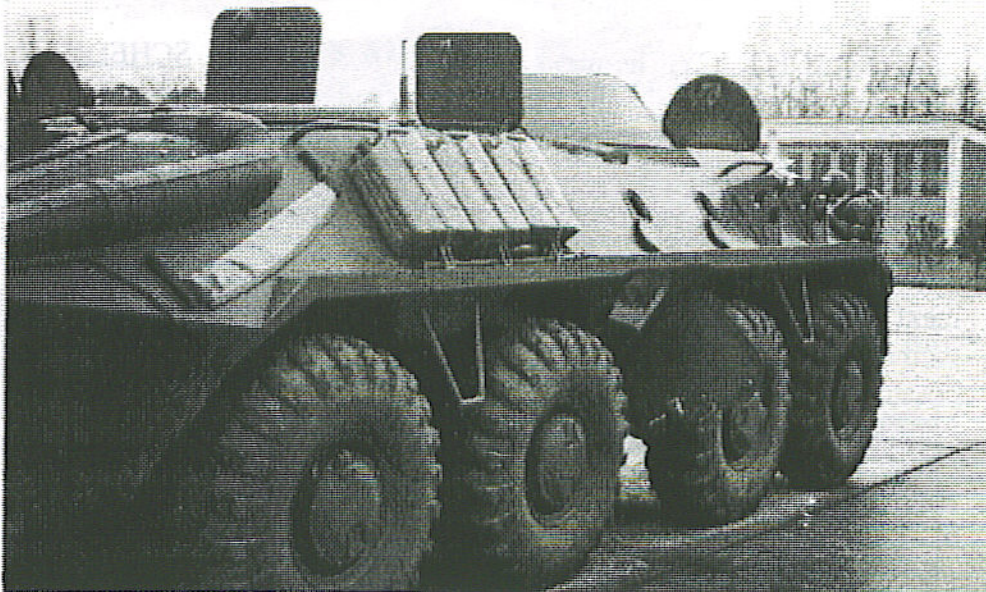
New life for an Armored Car

The South African National Museum of Military History, in Johannesburg is in the process of restoring a 1924 Crossley armored car. One of two vehicles ordered in 1924, they arrived in 1925, and were used for the next seven years as driver training vehicles.

In July of 1932, they saw their only action as part of an internal security expedition into Ovamboland. After a tremendous struggle through the semi desert one car eventually arrived at Ondangwa, where a combined air and ground attack with the single vehicle was sufficient to carry the day.

At the outbreak of WWII, South Africa's entire armored force consisted of the two obsolete Crossleys and one WWI Whippet tank. When production of the South African Reconnaissance cars was firmly underway in 1942 the Union Defense Force (UDF) upgraded the Crossleys to a similar standard by fitting V-8 Ford engines and a three ton commercial chassis.

Below: Ex-NVA SPW-1 (BTR-70) at Munster, Germany 1991. Photo: M. Roth

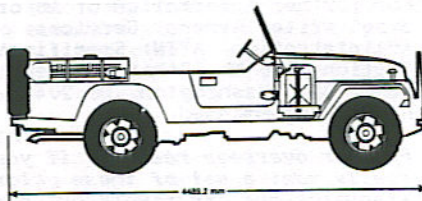
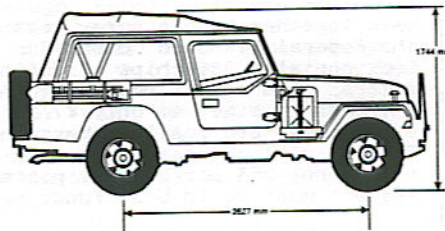
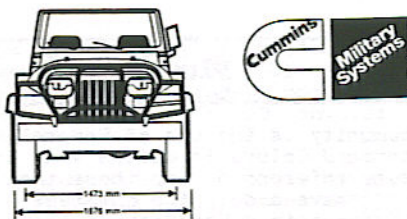


In 1960 the SADF donated one of the Crossley-Fords to the Museum. Almost thirty years later, it was stripped down to its component parts, sandblasted, cleaned and refurbished.

The engine needed very little attention and an oil change, new spark plug leads and a few minor parts had the engine running smoothly. By this time the Crossley-Ford should be already back on the road and ready for exhibition as a running vehicle.
-submitted by H. Morley Verdier

A return to the Jeep?

The 1/4-ton vehicle may have fallen out of favor with the U.S. Army, but they are still popular around the world. Cummins Military Systems (engines) and Chrysler Corporation (Jeep) are offering a militarized version of the standard production Jeep for military use. Many versions of this vehicle built in Egypt were obvious during the recent Gulf War in use by Coalition Forces. See below for drawings and specifications.



DIMENSIONS

	English	Metric
Wheelbase	103 in.	2.6 m
Overall Length	177 in.	4.5 m
Height	70.7 in.	1.8 m
Width	67.4 in.	1.7 m
Ground Clearance	9.3 in.	23 cm
Gross Vehicle Weight	4,850 lbs.	2,204 kg
Payload	1,500 lbs.	681 kg

ENGINE

Cummins B3.9-105	
Horsepower	105 hp @ 2500 rpm
Torque Rating	265 ft./lb. @ 1700 rpm
Cummins B3.9-120 (optional)	
Horsepower	120 hp @ 2500 rpm
Torque Rating	300 ft./lb. @ 1700 rpm

TRANSMISSION

Chrysler A 727 3-speed automatic with Torque Converter (optimized for diesel engine application)

Gear Ratio:

1st	2.43:1
2nd	1.36:1
3rd	1.00:1
Stall Torque Ratio	2.13

TRANSFER CASE

New Process Gear Model 231

Gear Ratio:

High	1.00:1
Low	2.72:1

AXLES

Front	2,200 lbs.	998 kg
Rear	3,400 lbs.	1,545 kg
Gear Ratio	3.5:1	

STEERING

Power assisted recirculating ball steering gear

14.1 ratio

BRAKES

Vacuum power assisted

Front (diameter ventilated disc) 11 in. 280 mm

Rear (diameter drum) 9 in. 229 mm

Iraqi wheeled armor at the Tank Museum, Bovington

Among the dozen or so AFVs recovered from the Gulf and sent to the RAC Tank Museum were three wheeled types. The BRDM arrived without its main or secondary machineguns, but otherwise in good condition. Extra sandbag protection had been added over the engine decks, and in this state it was briefly on display before being removed to an MOD establishment for tests.

Its derivative armed with the SA9 Gaskin surface to air missile system seems set to remain in the Museum collection, even if not currently on display. Its tires are all burst which makes it look in worse condition than it in fact is, and it lacks missiles.

A Panhard VCR-TH with the Euro-missile HOT launcher system is on show. About 100 were in Iraqi service, current numbers will be less. It arrived in good condition I'm told, apart from the brakes.

All the Gulf vehicles have been treated to a full, inside and photographic survey, which together with a wide range of pictures, most if not all vehicles used the Gulf itself is a great source of reference for the serious enthusiast.

Anyone interested in getting prints should contact the Museum photographer, Roland Groom, at the Tank Museum, Bovington Camp, Wareham, Dorset, BH20 6JG, United Kingdom enclosing an IRC, and please be specific - there is so much that just asking for "Gulf photos" will be pointless!

-submitted by Peter Brown

EDITORIAL POLICY: The purpose of the *ARMORED CAR* Newsletter is to, "promote interest in; and exchange information on; the history, development, collection, preservation, and modeling of wheeled fighting vehicles from around the world". In support of this goal, *ARMORED CAR* encourages international cooperation in researching the history of the development and usage of wheeled fighting vehicles from their initial introduction to the present time. Subscribers are asked to support *ARMORED CAR* by submitting material (photos, drawings, articles, etc.) for publication. A member's subscription will be extended by one issue for each time their material is used. All material is copyrighted by *ARMORED CAR* and no reproduction in whole or in part is permitted without written permission.

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