

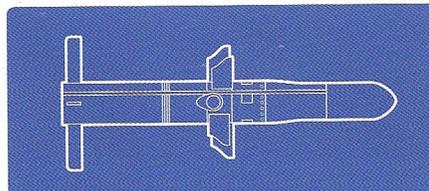
M113A1 TOW CAP

DAVID BLACK



History

In the early 1970s, the US Army fielded the BGM-71 TOW (Tube-launched, Optically-tracked, Wire-guided) anti-tank missile system. When I was in Germany in the late 1970s we had the M113A1-mounted TOW systems. It was an attempt by the army to provide the TOW on a mobile platform that would keep up with, and be deployed alongside, mechanized infantry units.



M113 TOW Guided Missile Equipment Carrier (1971)

This carrier was also known as the M220 TOW Vehicle. It consisted of an M113A1 APC with an M233 TOW mounting kit installed. The kit provided for stowage of a TOW launcher, 10 missiles and the four-man TOW crew inside. The TOW could also be dismounted for ground operation.

The M233 TOW kit consisted of a pedestal unit mounted on double vertical rails that were pivoted at the vehicle's floor under the troop compartment roof hatch. The pedestal unit was raised on the rails and the launch tube was attached and loaded for firing. The vehicle had very limited cross-country travel ability while the launcher was in the up position.



M113A1 TOW CAP (1977)

The M113A1 TOW carrier provided no protection for the gunner or launcher when in the firing position. The TOW CAP (Cover, Artillery Protection) was developed to provide protection against shrapnel and small arms fire. The system consisted of four ballistic nylon panels hooked together and manually raised over a tubular steel frame. A front panel below the TOW launcher provided some frontal protection, but most crews never used this panel. When not in use, the cover was folded up and placed inside two storage areas on the deck of the carrier. The CAP system could also be removed from the carrier and used when the TOW was dismounted and used in the ground mode. This system was used prior to developing and deploying the M901 Improved TOW Vehicle (ITV).

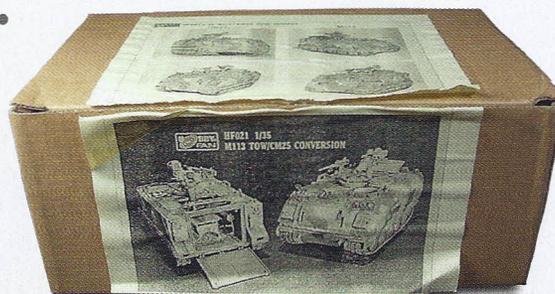
Building the Model (2014)

I wanted to build a model of the M113A1 TOW CAP for some time and when Hobby Fan released its conversion in the early 1990s, I bought it. Like many well-intentioned modelers, I put it on the shelf where it gathered dust for many years. During a bout of spring cleaning last year I found it and decided that it was time to build.

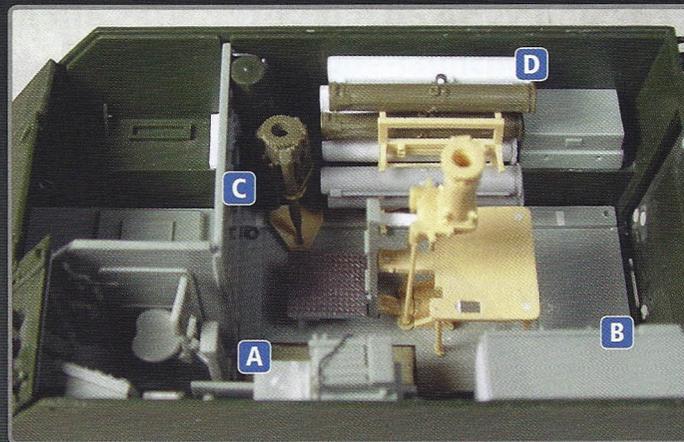
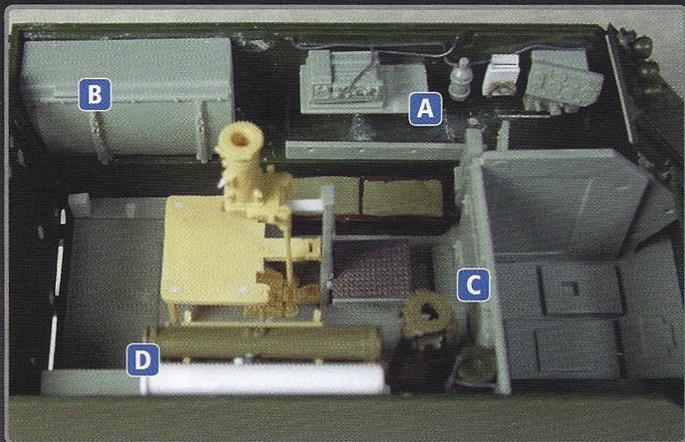
Overview

The Hobby Fan conversion kit is one of its older kits and I'm not sure if it's still in production. It may be available through eBay or other selling outlets. There are a few inaccuracies with the kit parts. The TOW ready rack is too tall and has to be shortened to fit into the M113 kit. The gunner's platform also has to be modified. The Academy M113A1 kit is a good start but if you want an accurate model, some interior modifications have to be made.

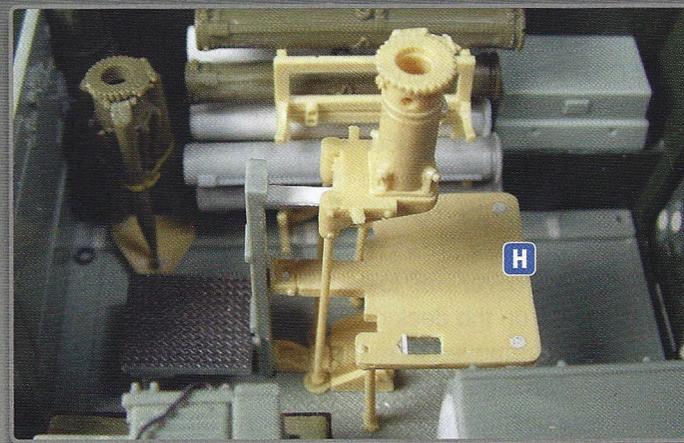
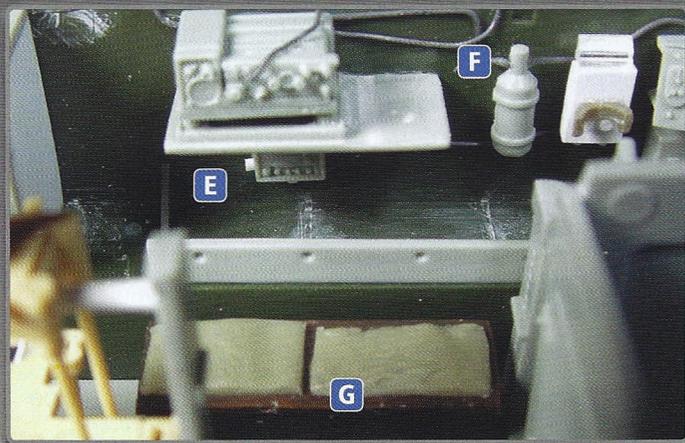
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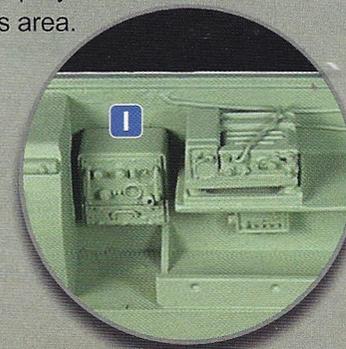
Interior



- A** The radio configuration is for an M106 or M125 mortar track. The radio in an M113 was mounted on a shelf and the control box was mounted on the wall under the shelf.
- B** The fuel tank is too long and must be shortened.
- C** Ductwork for the crew heater must be added. Also, the vehicle mount for the TOW ground mount tripod has to be installed.
- D** The TOW missile ready rack (Hobby Fan kit) is too tall to fit inside the model so I shortened it to the correct height. I also fabricated several TOW missile canisters for the rack since none was provided.



- E** A sump pump tube needs to be added to the rear wall next to the battery box.
- F** The fire extinguisher is a fixed system and not the removable one that comes in the kit. The spray cone was removed and then mounted on the wall. Tubes were added for the fuel tank and driver's area.
- G** The crew's bench seats have to be shortened because the TOW CAP version does not have benches that run the length of the crew compartment.
- H** The gunner's platform and TOW pedestal (Hobby Fan kit) have to be installed according to the Hobby Fan instructions.
- I** The TOW control box is mounted on the side wall between the radio shelf and the fuel tank. A control cable needs to be run from the box to the TOW pedestal.



Finally, a pulley for the ramp lift cable must be built and added.

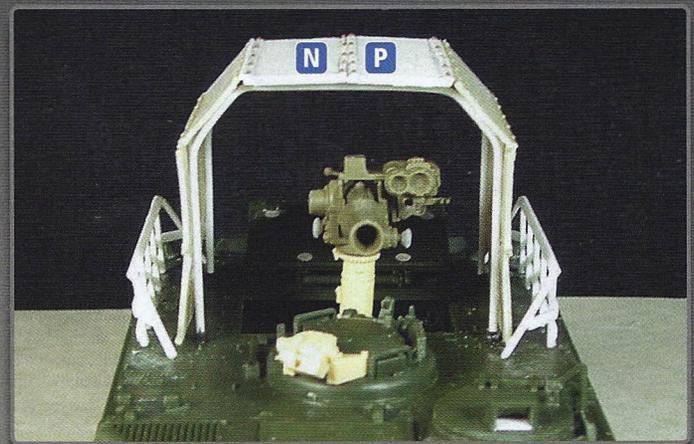
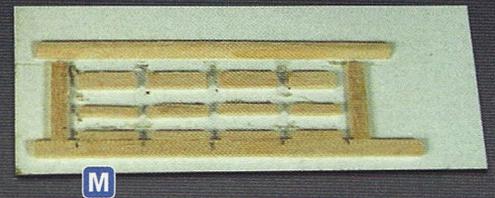
Exterior



K The main exterior differences on the TOW CAP are the guardrails on each side of the crew hatches and the CAP. There is also a different mount for the M2 .50 caliber machine-gun on the commander's hatch. It is provided in the Hobby Fan conversion.

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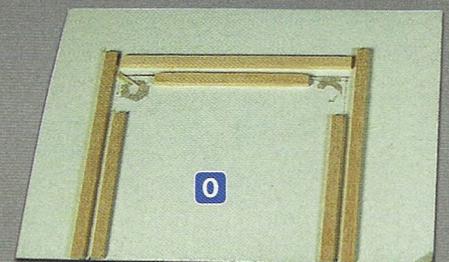
M I made the guardrails from 0.8 mm x 1.5 mm styrene strip. I fashioned a jig from wood and cardboard to ensure symmetry on both sides. I got the measurements for the jig from photographs of the actual vehicle. Using the photographs, I got an approximate size in relation to the side of the M113. Then I measured the kit and transferred that measurement to the jig



N The CAP consisted of eight Kevlar® panels that were erected on a metal frame consisting of two metal pipe bows. I constructed a jig out of wood and cardboard to get the right shape and uniformity. The panels were made from styrene sheet covered with tissue paper and white glue for texture. Styrene strip and Tichy Train Group rivets were added for detail.

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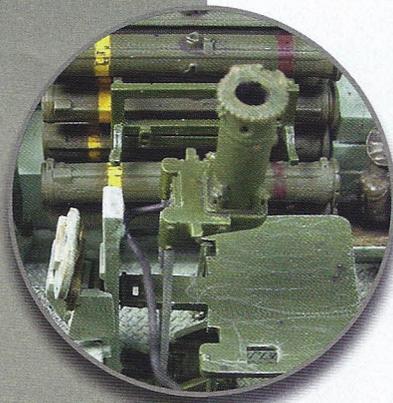
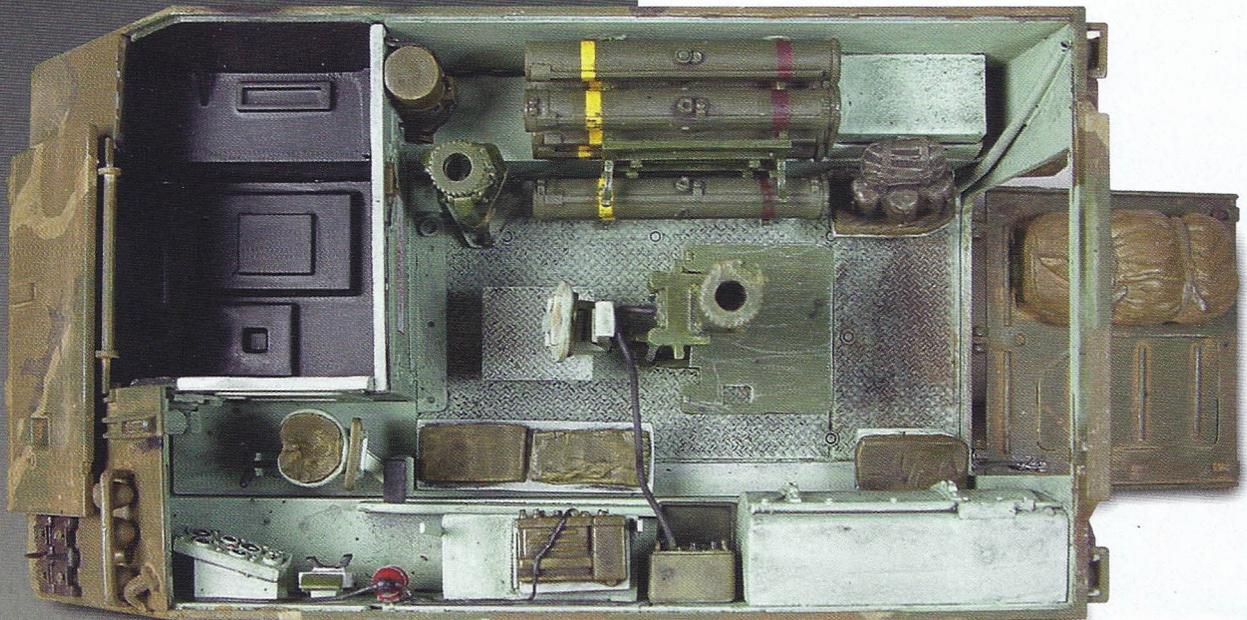
Painting and Weathering

The model was painted using Model Master (MM), Tamiya and Vallejo paints. Weathering was done with Mig Productions' pigments and washes and AK Interactive filters.



Interior

The interior was painted Model Master #4840, RAF Sky Type 'S' ANA 610. This is a very close approximation to the seafoam green used on M113A1 interiors. Radios, ready racks etc. were painted Tamiya olive drab. The gunner's and commander's platforms were painted Model Master Dark Green. A black wash was used to bring out details.

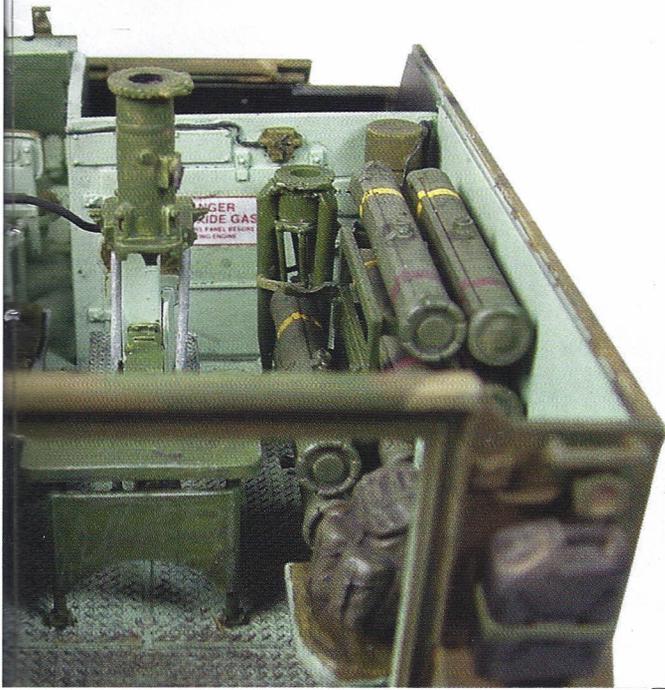




Exterior

The exterior was painted the MERDC Winter Verdant scheme that was most commonly seen in Europe. The colors used are: MM Dark Green #4726 - FS#34079, MM Olive Drab #4728 - FS#34087, MM Armor Sand #4711 - FS#32077 and MM Flat Black #4788 - FS#37038.

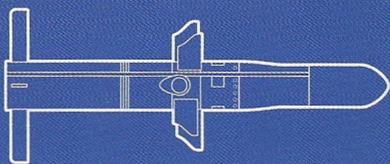
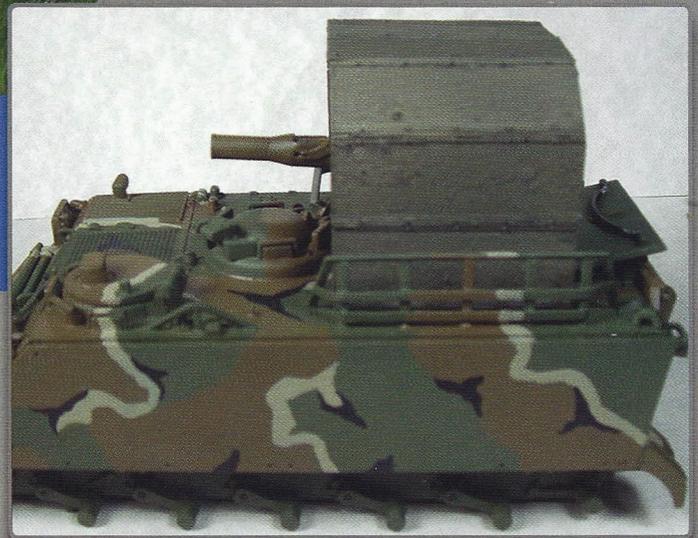
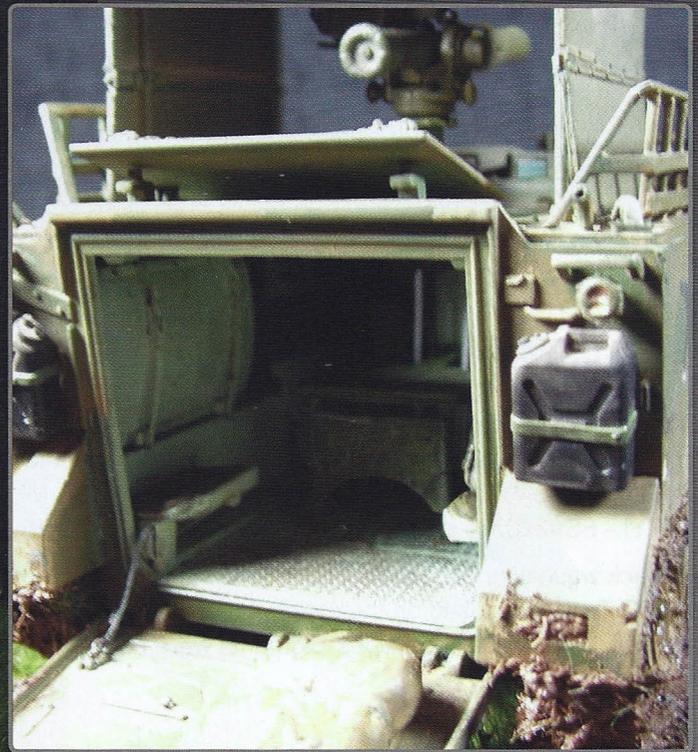
A black wash was used to bring out details and AK Interactive's Filter for NATO Tanks was used on the exterior. It dulls down the color and gives it a used look. Mig Productions' pigments were added to represent dust and grime.

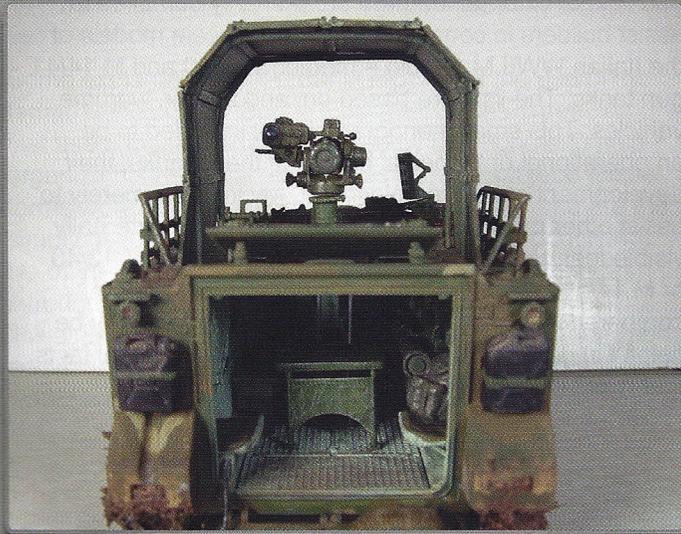
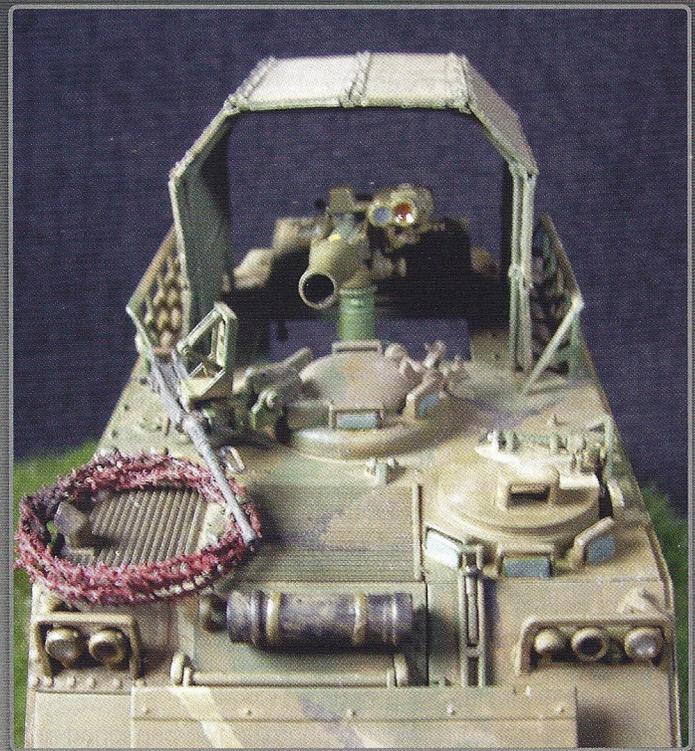
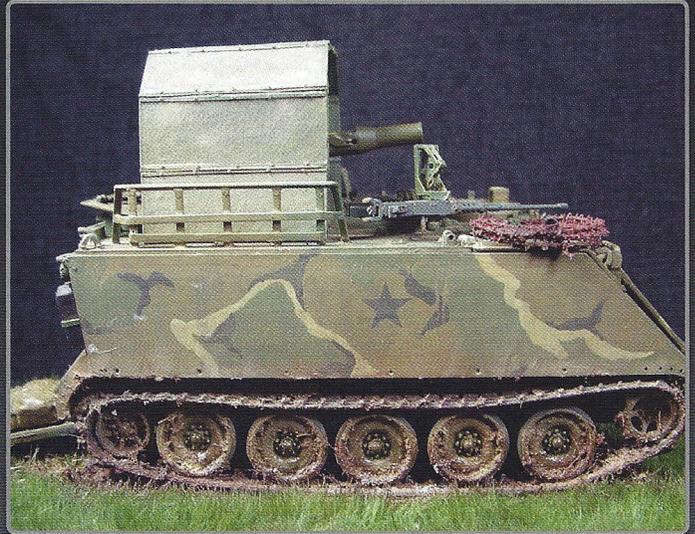


Base

The base is a combination of a craft store wood plaque, pink housing insulation board and Aves ClayShay. Silflor grass mat is used to cover the ground. Mud and tread wear areas are made by combining Mig Productions' pigments, Vallejo paint and Liquitex resin gel.

The grass was randomly trimmed and then dry brushed with various shades of green and brown to provide growth variety.





Kit/Aftermarket used:

Academy	No. 35281 M113A1 APC Vietnam
Hobby Fan	HF021 M113/CM25 conversion

References:

AM113 A1 TOW CAP photographs found on the internet
Personal experience