

Modelling an Australian M113A1 Armoured Personnel Carrier Part 1

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by John Myszka

The first delivery of diesel engined M113A1 armoured personnel carriers (APC) for the Australian Army arrived in March 1965. Ten of these APCs were sent to South Vietnam in May 1965 aboard HMAS Sydney and arrived at Vung Tau on 8 June. The unit was 1 Troop A squadron 4/19th Price of Wales Light horse Regiment later known as 1 APC Troop under the command of Lt R.K Hill as part of Operation Trimdon. On September 1965 another 13 carriers arrived including two M125A1 81mm mortar carriers as part of Operation Tanton. In May 1966 this was increased to a full squadron with the addition of 26 additional APCs (Operation Hardiwood).

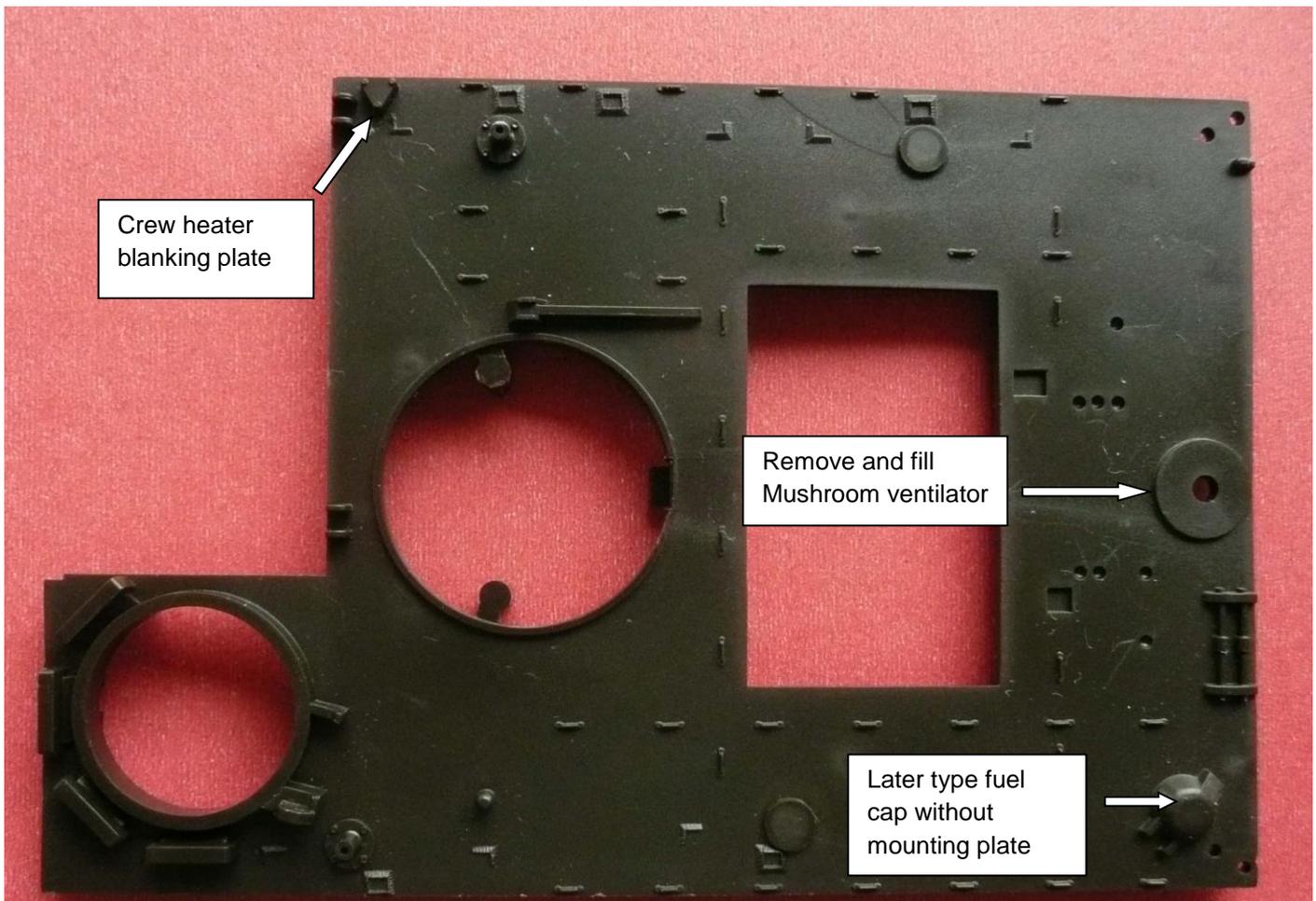
The M113 used by the US Army in Vietnam had a petrol engine whereas the M113A1 had a diesel engine. In August 1967 the US Army started to convert their M113s to diesel engines thus redesignating them M113A1s.

A standard US Army 1965 M113A1 APC has the following identification points:

- One shock absorber on the first and last roadwheel arm;
- An oval inspection plate around the armoured fuel cap;
- Integral fuel tank – a fuel tank actually welded into the left rear corner of the carrier;
- Rear mounted Jerrycans held in by horizontal and vertical webbing straps;
- The air inlet ventilator mounted centrally between the cargo hatch and the rear of the vehicle;
- The radiator filler cap between the engine air intake and out flow is a flat disc with a bent handle;
- Left rear mudguard with groove for draining fuel cell;
- Both rear mudguards have infill panels to stop mud collecting in them;
- A one piece internal access panel to the engine; and
- One only personal heater exhaust pipe.



Tamiya M113/ M113A1 hull showing the one roadwheel arm shock absorber on wheel station one and five.



The two main points that make Australian M113A1s different are:

- The cargo hatch filter box replaces the mushroom ventilator; and
- The underneath of the hull roof is covered with an inch of foam. This foam is also on the underside of the cargo hatch.

From August 1965 - only a few months after arriving in South Vietnam – gun shields were being added to the .50 inch calibre machine gun mount in order to improve protection for the commander. This was an ongoing task and not all APCs had these fitted immediately. These gun shields initially had square corners and some were rough cut. This changed later on to rounded corners and smooth edges. There were many designs/shapes produced.

M113 APC developmental history – major identification points

Integral fuel tank / oval inspection panel. This arrangement was present in all M113s and early (to 1970-72) M113A1s. It was discovered that the welded in fuel tank broke free from the hull and leaked petrol and diesel (in A1 models) into the rear crew compartment due to the stresses of travelling over rough uneven ground and paddy field bunds in Vietnam. It was replaced by a bolt/strapped in fuel tank, but the external inspection plate remained.

Internal engine Access panel. This was changed to an upper and lower engine access panels from about 1972. Those vehicles already in service were altered to two panels when the vehicles went in for major overhauls or by local base workshops in Vietnam.

Jerrycan holders. As mentioned above the first M113 / M113A1s had one jerry can mounted on the rear hull both sides of the ramp and held in place by horizontal and vertical webbing straps. In Australian service this was quickly augmented by a metal support made from quarter inch steel rod. Finally a metal jerrycan holder was bolted to the rear positions. These improvements were carried out by RAEME units in Vietnam associated with the Cavalry Regiment or base workshop.

Basic kit improvements

The engine in the early Tamiya M113 kits is not very good and needs a lot of improvement and detail.

Internally the driver's seat should be bolted/welded to the sponson and not mounted to the floor. Kit manufacturers have simplified this mounting.

The seating is very basic as is the battery box. I have not seen a good image of a 1965 battery box but museum exhibits show something totally different in shape and size.

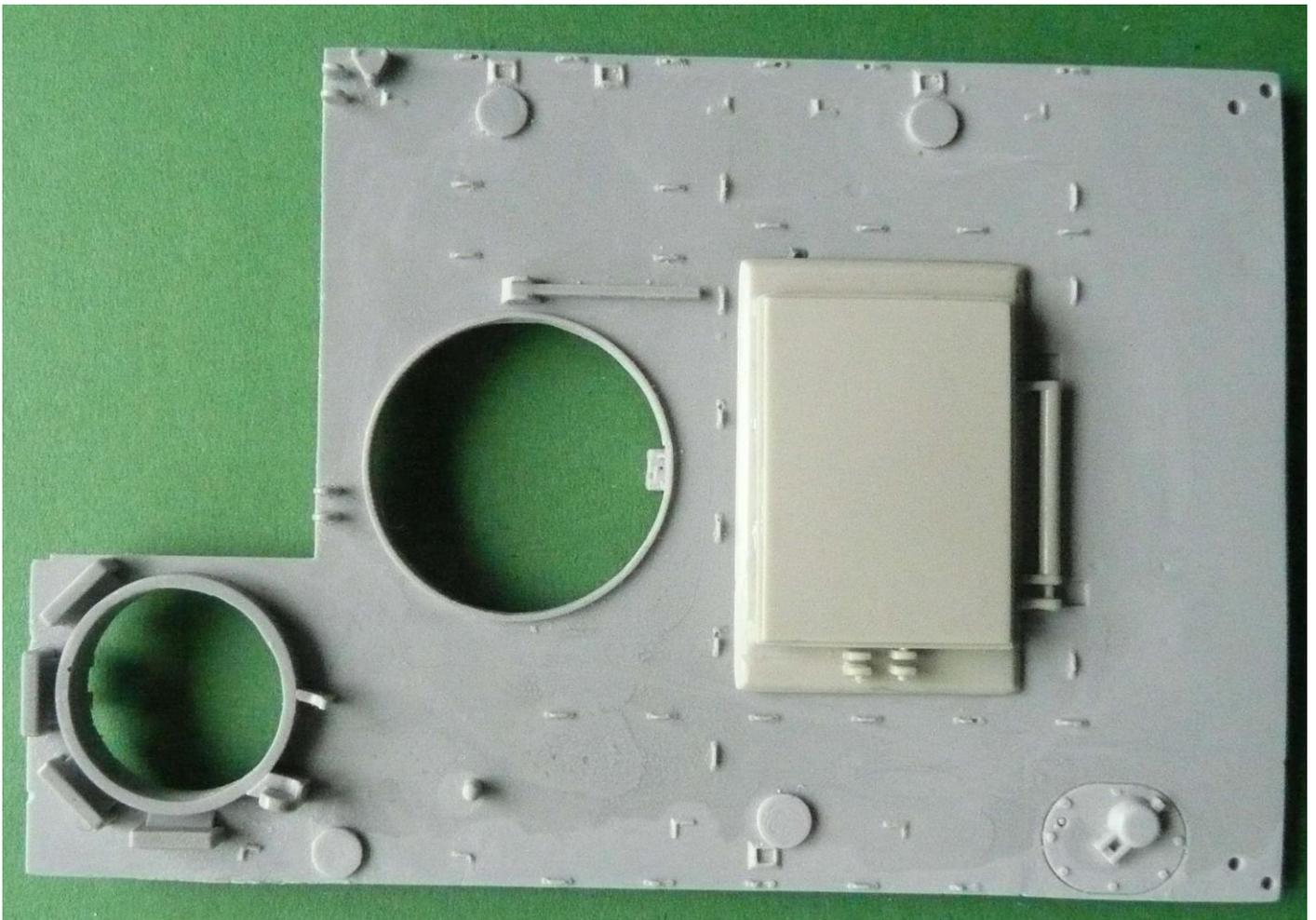
Modelling a 1 APC troop M113A1 APC – What the model market offers

Tamiya M113 kit 3540 1974	Because the hull roof does not have an oval inspection plate around the armoured fuel cap the kit represents a 1972-74 version of the M113. The crew heater outlet is also blanked off which could suggest that the kit is based on a US Army Vietnam carrier. This M113 does have an integral fuel tank, one shock absorber on front and rear most roadwheels and a one piece internal engine access panel.
Academy M113A1 APC Vietnam. Kit 1389	Comes with a very badly shaped T50 turret, 106mm RR, M132 flamethrower turret and ACAV fit out. Correct radiator filler cap, shock absorbers, oversized bolt in fuel tank but with late fuel filler cap (no oval inspection panel) – this would make it about mid 1970s vintage. USA Army style mushroom ventilator at rear of hull roof.

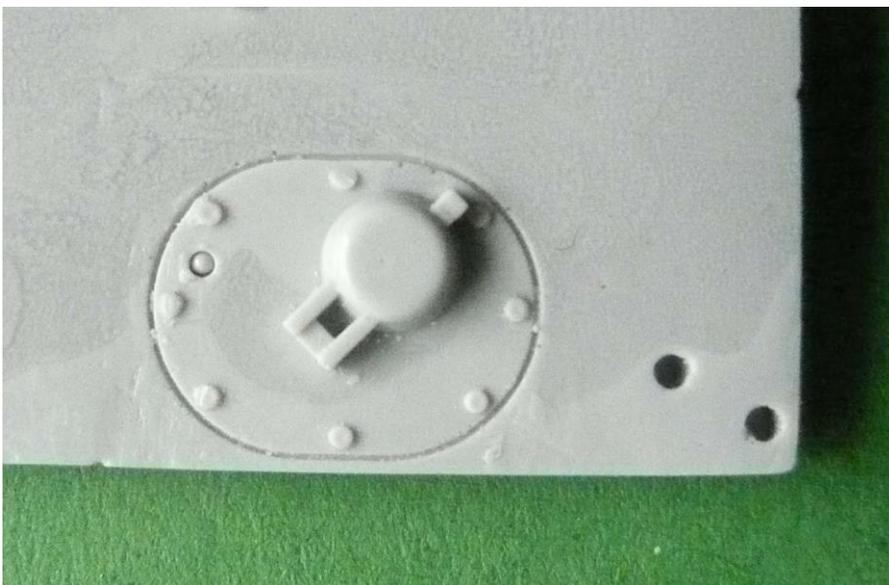
To make a 1965 Australian M113A1 APC, serving with 1 APC Troop from A Squadron 4/19th Prince of Wales Light Horse Regiment you would need to make the following basic changes/ corrections:

- Replace the existing kit fuel tank with a correct early welded in version (Tamiya kit 3540).
- Remove the mushroom ventilator and fill the gap.
- Correctly mount the driver's seat post to the side of the sponson above the floor, not into the floor.
- Either replace the hull roof with one that has the fuel tank inspection panel or scribe in the panel and add bolt detail;
- Replace the kit rear cargo hatch with an Australian hatch with filter box;
- Glue 20thou panels on the interior of the roof (but not the driver's roof) to represent the foam padding.
- The rear mounted American style jerrycans should be held in with straps not in metal holders.
- Add a square cut gun shield for the first shields – no one makes this version so a scratchbuilt version from 15thou styrene sheet would work fine. The gun shields were added from August 1965 only two months after 1 APC Troop landed in Vietnam on 8 June 1965.

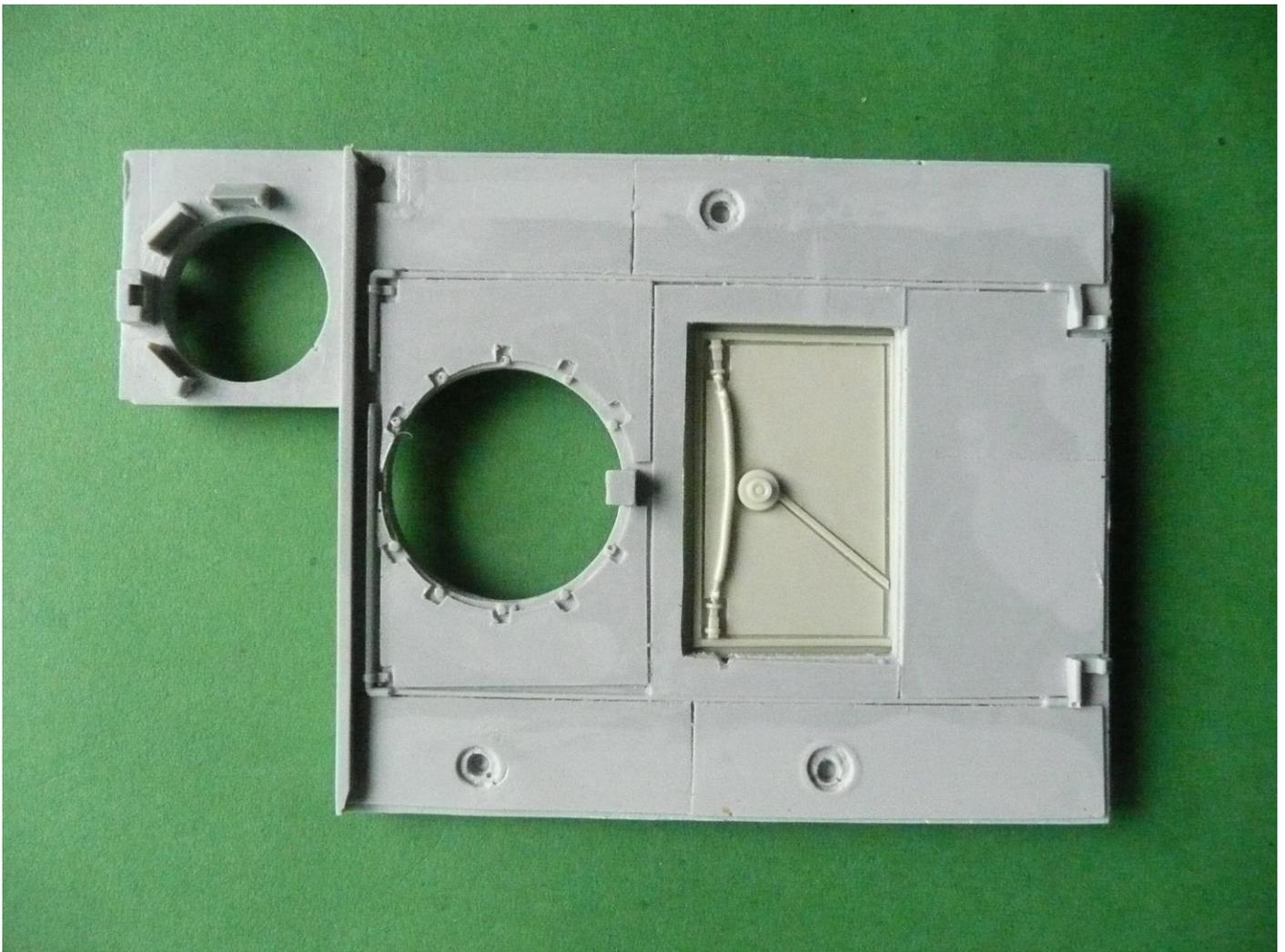
For hull top ammunition stowage see this article .



▲ Early Australian M113A1 hull roof showing the mounting plate for the integral fuel cell fuel cap and the cargo hatch filter box.



▲ Close up of early external arrangement for the integral fuel cell



▲ Underneath view of the hull roof with 25mm foam padding of the crew compartment. Note also the underneath of the cargo hatch with filter box. The three holes represent the spaces left for the antennae mounts to come through the roof.

References:

The only known reference is the Australian Military Equipment Profile No.4 – M113 and M113A1 APCs in Australian Service 1962-1972 by Michael Cecil.