M8 “Greyhound” - 1/16 Scale Model

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October 7, 2020 (rev. 10/9/2020)

A fairly common vehicle that would be welcome to any WWII diorama for RC tanks meets is an M8 Greyhound light armored car. Unfortunately, finding a1/16 scale M8 seems impossible. There just does not seem to be any production of this vehicle.

This is the challenge which I am attempting to take and build an operating (RC) 1/16 scale M8 for use at tank meets. The plan is to use mostly 3% printed parts of my own design intermixed with some JJRC/WPL “military Truck” parts such as axles, batteries, and motor.

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Starting Point

1. Introduction to the M8 Light Armored Car

So let’s take a quick look at what this “Greyhound” was. The M8 Light Armored Car is a 6X6 armored car produced by the Ford Motor Company during World War II. A total of 8,523 M8 armored cars were built It was used from 1943 by the United States and British troops in Europe and the Far East until the end of the war.

In British service, the M8 was known as the "Greyhound", a nickname seldom if ever used by the US. The British Army found it too lightly armored,

particularly the hull floor, which anti-tank mines could easily penetrate (the crews' solution was lining the floor of the crew compartment with sandbags). Nevertheless, it was produced in large numbers. The M8 Greyhound's excellent on-road mobility made it a great supportive element in the advancing American and British armored columns. It was marginal off-road, especially in mud.

The M8 performed this function with distinction. Each M8 armored car was equipped with a long-range radio set to assist in the exercise of command, or for the purpose of relaying information received from subordinate elements to higher headquarters. Another short-range radio set served to communicate within a cavalry reconnaissance platoon, reconnaissance team, or with headquarters. The M8 weighed 17,400 lb (7,900 kg) fully loaded with equipment and crew, and was capable of cruising 100–200 mi (160–320 km) cross country or 200–400 mi (320–640 km) on highways without refueling. On normal roads, it was capable of a sustained speed of 55 mph (89 km/h), hence its nickname.

The M8 was not designed for offensive combat, and its firepower was adequate only against similar lightly armored enemy vehicles and infantry. The vehicle's armor provided a fair degree of protection against small-arms fire but nothing more. With a meager .25 in (6 mm) of floor armor, the M8 was particularly vulnerable to German mines.

The crew of four comprised a commander (who doubled as the loader), gunner, driver, and radio operator (who could also act as a driver). The driver and radio operator were seated in the forward section of the hull, while the commander and gunner sat in the turret, with the commander seated on the right, and the gunner on the left.

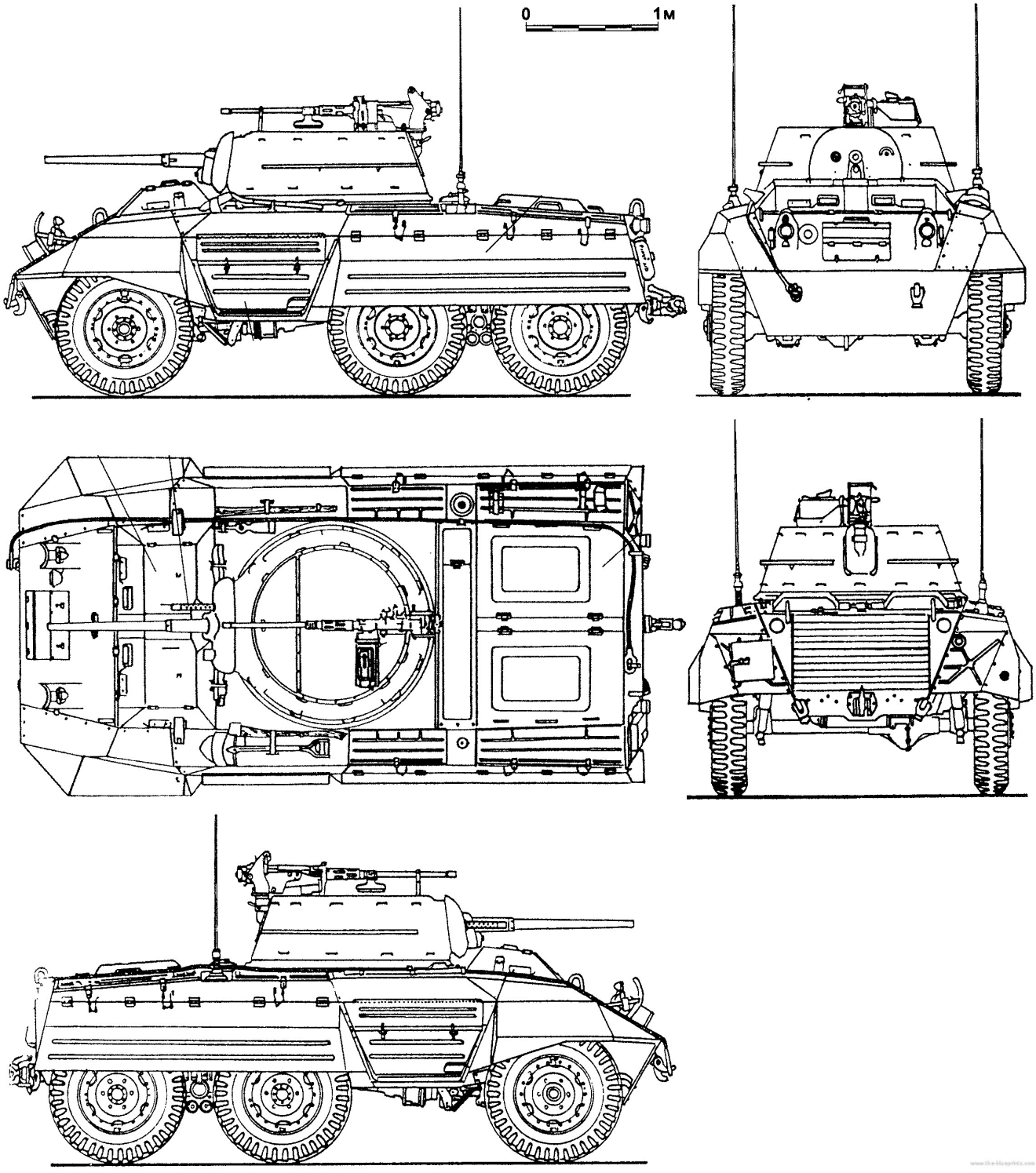
The M8 was powered by a Hercules Model JXD in-line six-cylinder 320 in^3 gasoline engine giving it a top speed of 55 mph (88 km/h) on-road, and 30 mph (48 km/h) off-road. With a 59 U.S. gallon (210 litre) fuel tank and an average fuel consumption of 7.5 mpg, it could manage an average road range of 200–400 miles (320–640 km).

The M8 was fitted with a 37 mm M6 gun (aimed by an M70D telescopic sight) and a coaxially mounted .30 in (7.62 mm) Browning machine gun in a one-piece, cast mantlet, mounted in an open-topped, welded turret. The M8 was initially fitted without any kind of anti-

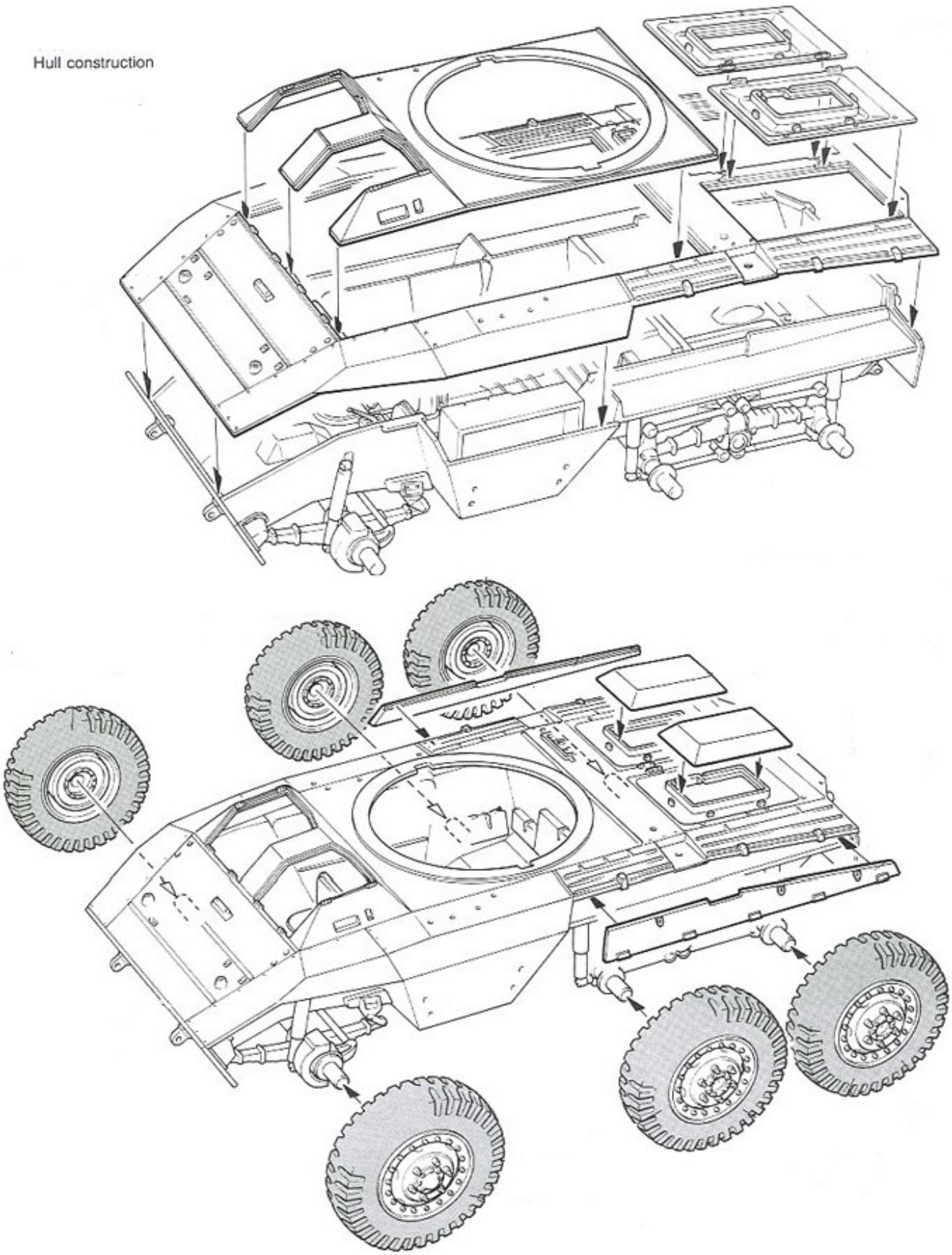
aircraft defense; as a stopgap solution, a .50 caliber Browning M2HB machine gun on a ring mount was retrofitted to nearly all vehicles already in service.

2. Drawings

There are many drawings as well as photos to de-complicate the weird angles of the armor that are helpful to building this model. Some good sources ae instructions for building model kit such as Tamiya and Trumpeter.



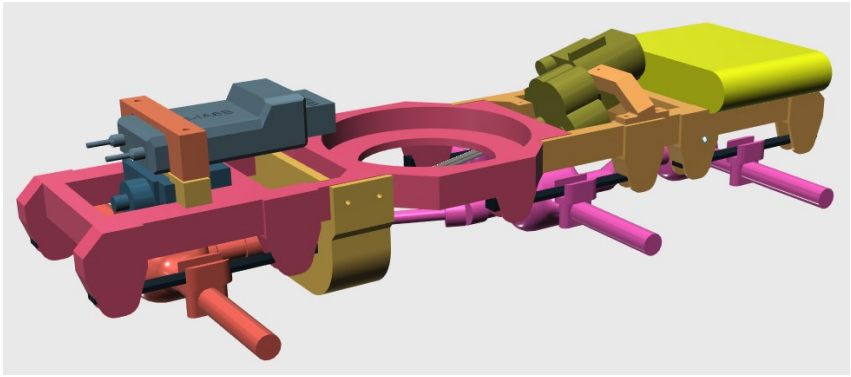
Hull construction



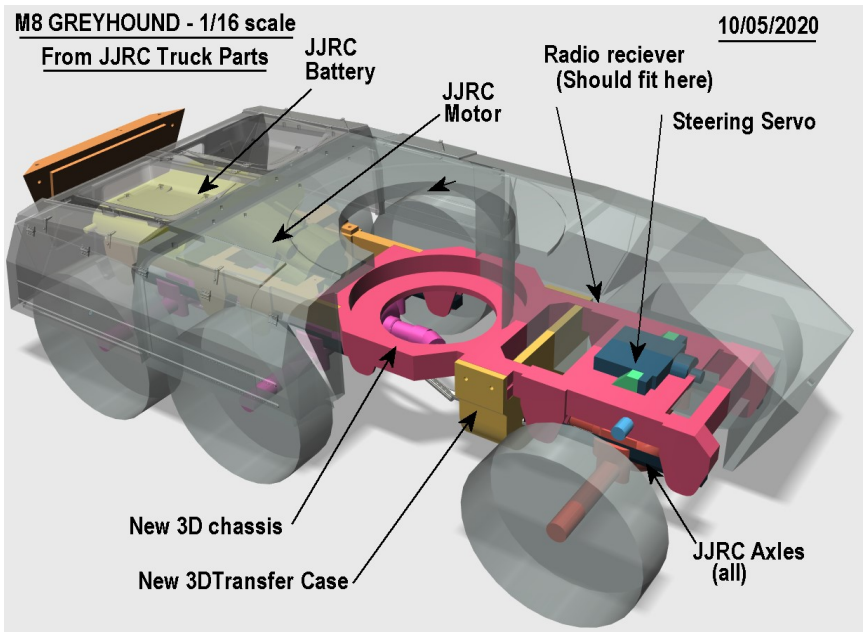
3. Creating the Model

As mentioned earlier, the creation of this unique model is a one person operation. So, by using 3D software and a 3D printer seems to be the only way to go, especially considering time the time it takes to develop a model from scratch.

First, get the data. There are plenty of photos, drawings, and other data out there. The biggest difficulty for me was the various angles of the armored exterior. This caused much havoc with my 3D software and some parts took much longer than others.

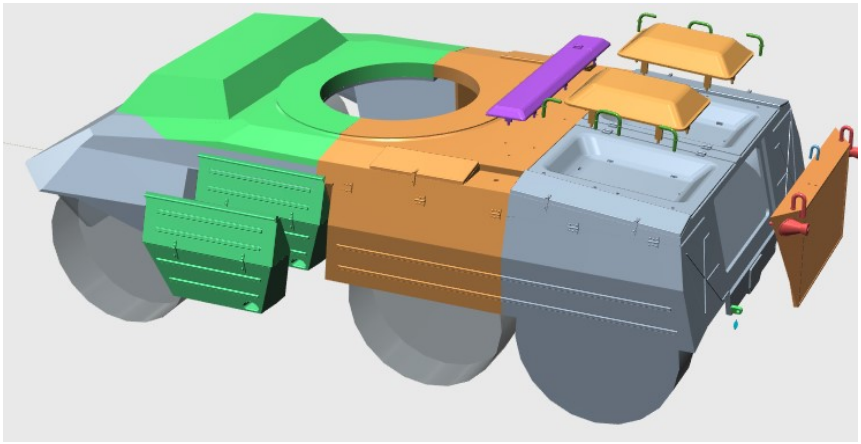


So let's jump to the 3D models first to see where everything fits in. (Also, with 3d Modeling you can model know parts such as the motor, tires, batteries, and more and fit all of the parts together without cutting or gluing a single part in place.



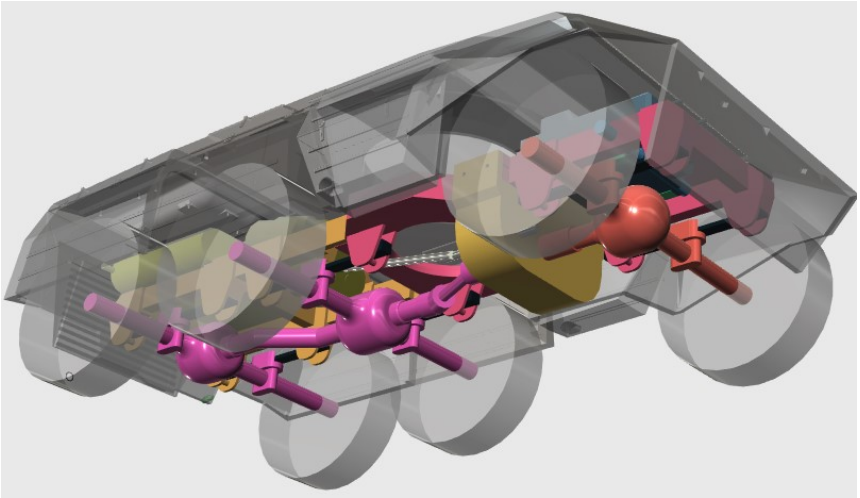
Each designer has there own way of building 3D models. I decided of the assembly approach first to see if it is feasible to get everything in. Here is my chassis assembly which I did first to see of the drive train would fit:

Next I worked on the body pieces to make sure all of the internal parts would still fit.



Below you can see some of the body parts. More will be developed as the design proceeds. The turret has not been done at this time as I am unsure if there is sufficient space for a turning mechanism.

Lastly, I have a screen print (like the first but with some additional parts) at a slightly different view show all wheels are to be powered. Kind a fun views as parts can be made semi-translucent to see inside the model.



4. Parts, Materials, and Supplies

To simplify the build some parts were taken from WPL/JJRC “Military” trucks from which I had modified for other uses. (You can buy some of the parts separately however.) The part I have used here are the 3 axles (from a 6X6 version of the truck, the gearmotor, part of the suspension, and the battery.

The remainder of the new parts (not fabricated) include a miniature servo for steering, an ESC (10 amp electronic speed controller), and a Flysky I 6 receiver (and will use a Flysky transmitter.

Virtually all the remainding parts will be 3D printed using ABS material for its cement compatibility using regular styrene welding cement.

5. Building the Prototype/first model

The first step after the 3D design was partially complete (anxious to get started) was to print the bare chassis and mounding parts for the drive motor, servo, and radio receiver. After this is completed, start assembling these items for fit and function.

The next step will be making the gears and gearbox, drive shafts and couplings and possibly bearings.

6. Finished Model Photos

Pending

7. RC Operation

More to come!