Modeling Realistic Sherman Tanks
Sure-fire Sherman

Basics for building Tamiya’s 1/48 scale M4

By Liejon Schoot

Tamiya’s M4 Sherman (No. 32505) was my first attempt at building armor in 1/48 scale. Accustomed to 1/35 and 1/16 scale armor, I didn’t know what to expect – and I was delighted to find that it’s a lot of fun to build. The kit is well detailed, the parts need little or no clean-up, and everything fits just fine.
Lower hull
The lower hull comprises a die-cast metal chassis and injection-molded transmission cover and rear panel, 1. At the rear of the hull, I cut off the molded handle on the right-hand door of the engine compartment and replaced it with a handle made from copper wire, 2. I used super glue to join the plastic rear panel and transmission cover to the die-cast hull, filled small gaps between the hull and the plastic parts with epoxy putty, and sanded those joints smooth. Then I super glued the reduction gear housings to the hull.

Suspension
Roughing the rubber wheel surfaces with a sanding stick and chipping out little pieces gave the wheels a worn look, 3. After assembling the bogies, I filled and sanded small gaps in the cemented parts. Again, I used super glue to attach the bogies to the die-cast hull.

Tracks
The tracks are injection-molded in several pieces. The two longest segments are placed at the top of the run, with shorter segments at the bottom and individual links that travel around the drive sprocket and idler wheel.

I assembled the tracks in sections but left them off to paint them separately.

Upper hull
The kit leaves the underside of the sponsons open; I closed these spaces with sheet styrene, 4, reinforcing it with triangular supports, 5. I used stretched sprue for weld beads on the appliqué armor plates, 6. When the glue softens the sprue, you can use a hobby knife to sculpt the rippled look of a weld. Copper-wire springs are attached to bits of strip styrene on the hatches, 7.

On the rear deck, I used fine mesh for grilles on the air intakes, 8. I scraped out excess plastic to thin the headlight and taillight guards.

To the turret
The two lifting hooks on the gun shield and the handle on the commander’s hatch are made of copper wire, 7. I thinned the vane sight and built a bracket for another aiming device from copper wire.
After shaving off tie-downs molded on the rear of the turret, I replaced them with strands of electrical wire. I also added stowage rails to the side of the turret, making them from copper wire and brass strip. The rails are mounted in holes I drilled in the turret and super glued from the inside.

I bored out the barrels of the .30- and .50-caliber machine guns, slicing off the grips on the latter and replacing them with more accurately shaped styrene rod.

**Stowage**
The stowage used on the model is Tamiya’s 1/48 scale Jerry Can Set. The towing cable is made from twisted electrical wire. I left a bit of insulation on both ends to replicate the ends of the cable; the eyes are copper wire super glued to the end.

**Paint, weathering, and decals**
The bogies and the tools on the deck are hand-painted. The lower hull, upper hull, turret, barrel, and tracks were painted separately.

I started with a dark red-brown base coat. Then I sprayed everything olive drab, added a coat of satin clear, and applied decals. (Of course, I let each coat dry before proceeding to the next.) Another coat of satin clear sealed the decals.

For weathering, I used a heavily diluted wash of olive drab mixed with a little white. Details such as scratches and worn spots were painted with a mix of black and...
Mixing powdered pastels and earth-brown paint makes good mud. I used a light coat of the same earth-brown paint to blend everything and cover the model with a very fine layer of dust.

The tracks received the same washes as the rest of the model, but I replicated worn and bare metal with a graphite pencil and added more dirt to the running gear and lower hull with light-brown powdered pastel.

Any self-respecting Sherman should have ample gear stowed on the hull.

Stow it and go!
I painted all the stowage with enamels and artist's oils and tied it down with fine-gauge copper wire. The aircraft recognition panel on the rear deck of the hull is made from paper and Tamiya tape.

With a stretched-sprue antenna for a finishing touch, the model was done. Modeling armor in 1/48 scale was a nice change of pace — and now I'm ready to go again! FSM

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More photos: www.tanxheaven.com
Dressing up a Firefly

Story Lawrence Hansen
Photos by Jim Forbes, William Zuback, and Tessa Bender

"Why don’t you do something with this and write a story about it," said Dick McNally, FSM’s former managing editor, as he handed me a large kit box. What response can an associate editor make? “Um, sure, OK,” I said, committing myself to building Dragon’s 1/35 scale Sherman Firefly VC.

The Firefly was a British variant of the M4A4 armed with their potent 17-pounder gun that made it the only Allied tank that could go head-to-head with German Panthers and win. The kit is a conglomeration of parts from several Dragon kits, with a sprue of alternate parts unique to the Firefly VC. I didn’t have much trouble settling on the “something” I would do with the kit.

It seemed logical to take this project a step or two beyond the out-of-the-box, “tank in a weekend” T-34 I’d built last year (Nov. 2003 FSM, p. 82). An aftermarket barrel was a must, and Dragon’s individual-link tracks looked like a bit more than I was ready to take on. A call to Red Lancers (www.redlancers.com, 570-742-8118) set me up with a one-piece turned-aluminum Jordi Rubio barrel and a set of Accurate Armour resin tracks with the correct late-Sherman chevron-pattern treads.

Step out of the box with Dragon’s late-war British Sherman

Here’s where the rubber meets the road (wheel): Lawrence applied some of the techniques he’s learned since joining FSM to improve Dragon’s 1/35 scale Sherman Firefly.
The turned aluminum Jordi Rubio barrel was a bit pricey, but it sure beat trying to glue the halves of the kit barrel and cleaning up the seams.

Starting at the top
I prefer to begin a tank with the turret, maybe because it can be completed fairly quickly, so I feel like I’m making progress. The 17-pounder’s larger breech mechanism and heavy recoil meant there wasn’t enough room in the Firefly’s turret for the radio, so an armored-steel bustle was added to the back of the turret to hold the radio gear. This is accurately represented in the kit, which includes an extra storage box to go on the back of the bustle. The instructions didn’t say if the box was correct for the vehicle I was modeling. It looks like a field modification, and I liked the way it offset the long barrel up front, so I used it.

The beautifully turned Jordi Rubio barrel, 1, is much better than gluing the kit’s plastic barrel halves together trying to keep the whole thing round while removing the seams. Anchored with a bit of gap-filling super glue, it fit perfectly without any modification to the mantlet, 2.

The kit includes a nice Browning .50-caliber machine gun for the turret, but none of my references showed the gun mounted on Fireflies, so I left it off. However, I didn’t remove the gun-mount base on the turret; if I come across evidence that the gun was used, I can add it later.

Front-end fixes
The basic hull structure went together easily, but there were problems where the Firefly’s more smoothly rounded nose (as opposed to the sharply angled bow of earlier Shermans) meets the lower hull. The final-drive housings and sprocket mounting pins are molded into inserts that didn’t fit well in the hull sides. It looked like the inserts would end up sitting significantly lower than the rest of the hull side. I wrapped up an evening work session by gluing them in what I thought was a better alignment.

I checked the model one last time before going to bed and – oh no! – the fronts of the final drive housings were bowed in at an alarming angle. In my effort to “fix” the poor fit of the inserts, I created a bigger problem. Fortunately, the glue hadn’t set yet, and I was able to pull apart much of the evening’s work. I tried again the next night. This time, the housings weren’t bowed in, but now I had ugly gaps between the inserts and the rest of the hull sides, 3. They would probably not show much on the finished model, but I’d known they were there!

After letting the hull sit while I worked on other assemblies and mulled over what to do, I decided to cut away the offending panels (not so easy now that the glue had set) and make better-fitting ones from .030” sheet styrene.

Using the kit part as a template, I traced the shape of the insert onto the styrene and cut it out with my hobby knife, 4.

After a rough first attempt that taught me you can’t really cut a curve in styrene, I made a series of straight cuts, each touching a point of the curve. When I had the piece off the sheet, I simply sanded the curve smooth, frequently test-fitting it to the hull after every few passes.

Rather than cut the outer drive-housing panels from the old kit parts, I swapped new ones from a spare Academy M4A2 kit we had in the FSM workshop. They mated perfectly to Dragon’s inner drive-housing parts.

I glued the new parts to the hull and filled the seams with gap-filling super glue, 5. The little lips on the inboard sides of the front fenders had been mangled in the rebuilding process, so I replaced them with new ones made from .020” styrene strip. My Firefly finally had a front end I was satisfied with.

As I added the hull detail, I realized that the instructions called out more parts than I had on the sprue, and several items like the headlight shields and fuel-filler caps were missing. I raided the Academy kit for replacements, which fit just fine, 6. I later discovered the AWOL Dragon parts on a different sprue, but I preferred the more crisply molded Academy replacements.

Before I applied the base coat of Model Master dark green enamel (No. 1910) to the hull, I sprayed Model Master gray primer (No. 1237) on the front hull corrections to check for uneven surfaces and provide a good base for the green (not entirely necessary, but I wanted to be safe).

After letting the green dry for several days, I brushed Future floor polish on the areas where the decals were to go. When I applied the decals, I anchored them with more Future instead of setting solution. The decals for white markings on the upper-hull sides looked a bit odd: they’re supposed to represent a hand-scrawled identifier “1126/LCT4/212.” I sprayed the hull and turret with Model Master clear gloss in preparation for the next step.

Wash day
After seeing the impressive results of Matthew Usher’s wash on his Tiger I in the October issue (p. 22), I knew my Sherman had to have a wash, too. I wasn’t quite ready to tackle the artist’s oils method Matt used, so I opted for a “sludge” wash of five parts distilled water, two parts flat black acrylic paint, and three parts liquid dishwashing detergent, 7. The proportions aren’t extremely critical, so I measured out the ingredients in drops from an eye-dropper into a medicine cup.

I slopped the sludge on the panel lines and other details I wanted to accent with a paint brush, let it dry, and removed the excess with cotton swabs, 8. When I removed too much, I
Lawrence’s second attempt to attach the inserts containing the Firefly’s final drive housings was more successful than the first, but there were still ugly gaps (and a nasty fingerprint). There had to be a better way…

…so he replaced the kit’s side inserts (left) with new ones fashioned from .030” sheet styrene. His first attempt (center) didn’t go so well, but the second (right) was a perfect fit with the hull and new drive housings made from a Dragon part and a part swiped from Academy’s M4A2 kit (top right).

After gluing the new parts to the hull, Lawrence filled the seams with gap-filling super glue and sanded them smooth.

The hull with a combination of details from the Dragon kit and Academy’s M4A2. The tools and spare treads on the front plate will be added after painting and finishing.

Softens your hands while you…. The sludge wash is easy to mix up with readily available ingredients. It’s easy to apply and forgiving — just wipe off mistakes and try again.

Dab the wash along the panel lines and other details you want to accentuate, let it dry, and then wipe off the excess with cotton swabs.

just brushed on more of the wash and tried again. A good wash should not be so heavy that it draws attention to itself; I figured that when I had removed enough excess wash that the effect was starting to look too subtle, I had it about right.

If I were really ambitious, I would have weathered the model by dry-brushing and applying pastels, but I wasn’t quite ready to let go of the showroom-new look. Instead, I finished the hull and turret with a coat of Model Master clear flat lacquer and called it a day.

**Running gear**
Between steps on the hull, I worked on the suspension/road-wheel bogies. There are a lot of areas inside the complex bogie structures that would be difficult to paint after assembly. I
decided it was best to paint the parts before assembling the bogies. Each bogie unit consists of 12 parts, and the units for the left and right sides of the vehicle are not interchangeable. To avoid mix-ups, I kept the parts for each unit in old medicine bottles. The bottles are clear, so I could see what stage the parts inside were at without taking the lid off.

The felt-tip marker method of painting the road wheels' rubber portions had worked so well on my T-34, I used it again. I sprayed the wheels with Model Master clear gloss lacquer and sludge washed them. After a coat of clear flat, I let them dry for several days before assembling the bogies. The layer of paint made the fit a little tight, and I had to scrape the paint from the gluing surfaces. I didn't fill the seams, but after touching up the paint by hand and attaching the bogies to the hull, they don't show on the finished model.

Tracks
I started having second thoughts about the Accurate Armour tracks. They had an awful lot of flash – I was in for plenty of filing and sanding. Even so, preparing them had to be less work than assembling the gazillion teeny-tiny parts in Dragon's kit. Or was it? I compared the two, by cleaning up a portion of the resin and test-assembling a length of the kit tracks, which looked nice – really nice. I couldn't make the resin tracks look that good. OK, I was hooked.

Fortunately, the Sherman's tracks don't have much sag along the top, so I could assemble the long top and bottom runs off the model. The tracks had to be assembled with the tread side down, so I frequently checked to make sure the chevrons on the treads were facing the right direction. I painted the assembled tracks dark brown, but held off on applying the wash until after the they were installed on the model.

To help keep the lengths of track straight during assembly, I made a simple jig consisting of a straight strip of 1/8" balsa wood glued to a thick, flat piece of cardboard. As I added links, I squared the track between the balsa backstop and a wooden straightedge. Using liquid styrene cement gave me time to get things aligned before the joints hardened.

Getting the tracks on the model was by far the trickiest part of the process. The long runs were easy to attach to the road wheels and idlers with super glue, but the portions that curve around the return rollers and drive sprockets were a test of patience. I ended up assembling the necessary lengths on my jig, then formed them around the wheels and sprockets before the glue set. Meshing the tracks properly with the teeth of the sprockets and getting the final link in place was ticklish business!

The glue had removed the paint from some spots on the tracks, so I touched them up with a brush. When that dried, I dry-brushed the chevrons with silver to make them look like they've been worn shiny through hard use.

Tool time
I painted the tools that mount on the rear of the hull topside with a combination of Model Master enamels and some old Polly S red-brown acrylic for the wooden handles. Getting the right look for the dry-brushed weathering turned out to be a snap: During summers as a teenager, I worked for my dad, a land surveyor. Part of my job was to carry tools similar to those destined for the back of my Firefly. Silver dry-brushing emphasized wear on the metal portions, and a bit of black replicated the ground-in grime from handling that gets into the wood. The result adds a touch of extra realism to the finished model.

I'm pleased with my new Firefly. It may not win a gold medal at the next AMPS show, but I enjoyed the opportunity it gave me to apply some of the techniques I've learned about since joining FSM. Now, for my next project, maybe it's time to tackle pastel weathering.
A finished bogie, complete with sludge wash, ready to be installed on the hull.

The choice: De-spruing, cleaning up, and assembling the hundreds of tiny parts for Dragon’s individual-link tracks or a lot of filing and sanding to prepare Accurate Armour’s resin tracks.

The decision: Dragon’s tracks looked too good to pass up. Lawrence assembled the long, straight runs off the model and painted them dark brown to begin simulating a field-rusted look.

A simple jig helped Lawrence keep the tracks straight and even while he assembled them.

After wrangling the tracks onto the model (there’s no easy way — just take your time) and touching up with more dark brown paint, the tracks were sludge-washed and the chevrons dry-brushed with silver. Only two chevrons ended up pointing the wrong way — a good score.

The tools were given brush-painted base coats, then dry-brushed with silver on the metal areas and black on the wooden handles to simulate grime from handling.
Sherman SURGERY

Breathing new life into DML’s kit as a Canadian-service Sherman  

*Story and photos by Brian Penny*
The M4A4 was a welded-hull version of the Sherman medium tank, powered by Chrysler's unusual A57 multibank engine. Assembled from five Chrysler engines, the powerplant's massive size crowded the Sherman's engine compartment while its mechanical complexity made maintenance difficult. After it was evaluated by a review board, the M4A4 was deemed unacceptable for overseas service with the U.S. Army.

The model wasn’t abandoned, though. The engine was simplified, and most of the almost 8,000 M4A4s found their way to England under the Lend-Lease agreement. An excellent maintenance training program was set up, and the British-designated Sherman V earned an excellent service record and saw action in all major theaters of operation.

I love modeling Canadian-used vehicles, so I decided to model an M4A4 using DML’s 1/35 scale M4A4 kit (No. 6035). The kit has some inaccuracies, but I was convinced I could improve things with careful research and a little extra work.

A few straightforward modifications helped model an unusual Sherman variant using DML’s kit. Weld seams on the upper hull were simulated with filler putty. The turret opening was modified slightly to accept the cast-resin CMD turret.

The M4A4 was a welded-hull version of the Sherman medium tank, powered by Chrysler’s unusual A57 multibank engine. Assembled from five Chrysler engines, the powerplant’s massive size crowded the Sherman’s engine compartment while its mechanical complexity made maintenance difficult. After it was evaluated by a review board, the M4A4 was deemed unacceptable for overseas service with the U.S. Army.

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Lower hull. My first step was to correct the lower hull. It should be shortened at the rear by 4mm, bringing the edge even with the outer rim of the central underside maintenance panel. There are two reasons for this: The idler shouldn’t extend beyond the rear tip of the upper hull, and the lower-hull back plate should be 15mm from the lower edge of the upper-hull back plate.

Next, I fit the back plate, idler supports and suspension. The rear exhaust deflector must be moved back 4mm to compensate for the shorter hull length and it should rest against the upper-hull back plate. I strengthened the assembly by adding 4mm-wide strips of styrene. I used .010” styrene to make the triangular supports that join the deflector and the back plate, as well as the sand-shield...
supports. A few Grandt Line nuts and bolts add detail to the scratchbuilt parts.

To modify the model’s nose section, I first cut off the towing lugs. Then I reshaped the flanges so the straight portion at the top would extend to the first bolt head. When I installed the splash guard, I sanded it down so it would be even with the top edge of the flanges.

To insure a straight upper track run, the center of the sprocket should be 18mm off the ground when the vehicle is on its road wheels. I’ve seen built-up models with unrealistic looking track sag and I didn’t want this on my model.

I started by sanding off the kit’s molded-on covers, then discarded the differential gear housings. I used the covers, housings, and sprockets from a Tamiya M4 donor kit.

I adjusted the height of the sprocket, then installed the housings, filling the gaps with putty. The result was a better-looking nose without any track-sag problems. I always build my tanks with the hatches open, so I added a little scratchbuilt detail inside the hull.

Upper hull. The kit’s upper hull is not bad, but it can be improved. First, I eliminated the upward kink of the turret guard by sanding it down until it was even with the outer tips of the driver’s and co-driver’s hoods. Next, I modified the shape of the hoods to give them a sharper inward angle. I shaved a little off the sides using a hobby knife. I also added the cutouts, which are typical on these hoods. Then I packed the sides with a ridge of epoxy putty.

All of the weld seams on the glacis, as well as the one around the turret guard, were replaced with textured ridges of Squadron green putty. I filled all the tool-locating holes and replaced the kit tools with some from my spares box. Photoetched-brass straps and tie-downs added detail. The hatches were detailed with periscopes, which also came from my spares box.

I detailed the rear-hull stowage box with styrene-strip brackets. I filed off the...
molded-on brackets on the hull back plate, then added the small first-aid box and supports for the deep wading gear under the stowage box, 2.

The turret. The most disappointing part of the kit is the turret, so I decided to use the cast-resin CMD 75mm dry-stowage turret instead. This is a nicely detailed piece, but I did add some detail to the commander’s ring and hatch. In addition, I put four-inch smoke generators on the right side. The aerial mounts are from the Dragon kit, 3.

I painted the model with Testor Model Master enamels. I used olive drab (No. 1711) and green drab (No. 1787) for the base coat, then sealed it with flat acrylic varnish. When it was dry, I gave the model a turpentine-based wash of raw umber artist’s oil paint followed by some dry-brushing.

I dry-brushed my model in multiple steps. First I accentuated the basic geometric shape of the vehicle using lighter complementary shades of the base color. I followed this with highlighting in white, then added a little earth-tone weathering to give the vehicle a used look, 4.

Markings. The markings represent tactical and formation signs of the South Alberta Regiment, which was the reconnaissance regiment attached to the 4th Canadian Armored Division. The Canadian markings are available through IPMS Canada.

I made the troop-number marking on the turret using dark green decal film. I cut out the circular surround using a cutting compass and pieced the troop number together from strips of the same decal film, 5.

As a Sherman fan, I really enjoyed this project. Although I made numerous corrections, each one was quite simple and a good test of my modeling skills. The result is worth the effort, and its unusual markings never fail to attract interest at model contests and shows. FSM

The British designated the M4A4 the Sherman V. The medium tank saw action in all major theaters of operation.
How would you model the ultimate Sherman tank? When I started to think about how I would, I began by looking at photo references. I winnowed the selection down and then noticed a trend – I was most interested in seeing a “big gun” Sherman, covered in sandbags, in Europe.

The most obvious subject was the tank on the cover of Steve Zaloga’s first M4 book, *The M4 Sherman at War*. It had everything I wanted to see in an M4 model and looked like a lot of fun and a challenge to build. It also offered me a lot of superdetailing options; I wanted to fully crew the tank and do lots of extra surface detail.

The photo was great to work from. It showed a late-war M4A1 Sherman with a 76mm gun, fully sandbagged with all crewmen visible – even the loader was out of the turret. It had a couple of other interesting points that would be fun to model: fully “duckbilled” tracks, a .30-cal. machine gun instead of the usual .50-cal., and a commander’s hatch swung to the rear rather than the side.

I used many tried-and-true techniques on this Sherman, but I also tried some new methods and materials. Among other things, I learned how to create real rust on plastic parts! There’s always something new to learn, especially when you’re trying to push your model – and yourself – to the limit. FSM

By Bob Collignon

*Photos by Collignon/Jarosz Photography*
Under all these sandbags is Italeri's 1/35 scale Sherman M4A1 with vertical suspension – and a whole lot more. In a two-part FSM feature, builder/photographer Bob Collignon shows you how he did it, step by step.
Italeri makes a serviceable M4A1(76). I added a new CMD T-23 turret with an aluminum barrel, AFV Club bogey assemblies, RUPS tracks, AFV Club “duckbills” and new scratch/converted road wheels (which now come as a kit from Ft. Duquesne Military Miniatures). I used bits and pieces of everything in the photo, plus some items from my spares box.

Here are some of the preliminary things I did to the upper hull. Early in a project I like to start gluing some of the little parts. It gets me started on a positive track, sort of “Zen and the Art of Gluing Little Stuff.” On the left is the Italeri hull I used on the project; on the right is a stock Italeri hull – a different release of the same kit – for comparison.

The view from underneath shows my figure boxing assembly. When I decided which figure would occupy each hatch, I put a plastic plug in each hole and slid it up or down to meet the base of the figure. The gray spot on the rear undersides is a texture test using Gunze Sangyo “Mr. Surfacer.” I ended up using mostly Testor liquid cement.

The degree of texturing that I add to a hull depends on the type of steel I’m trying to represent. The M4A1 models were sandcast, so I had a lot of latitude. I used Testor liquid cement to soften the hull. I coated an area that could be comfortably worked on – about a couple of square inches at a time.

With the second coat, the liquid cement slowly started to attack and weaken the outer surface of the plastic hull. I used white China bristle brushes – round brushes sometimes known as boar’s bristle brushes – to apply the liquid cement to the hull.

After the third softening coat, I started dabbling into the softened plastic, always keeping the brush tip damp with glue (too much glue might craze the surface). I used the same brush for each layer of texturing to keep the look consistent. Before trying this on the actual model, I practiced the effects on a junk hull.
The AFV Club articulated-bogey assemblies had casting numbers and pressed road wheels, but the wheels were detailed only on one side. After a visit to the Patton Museum in Fort Knox, Kentucky, I decided to “marry” two AFV Club road wheel/idler faces and add all the detailing. I sanded each face to the center, then glued and filled (I “snazzed up” the drive wheel, too).

To add complete detailing to 12 road wheels, two idlers and two drive wheels would have taken forever, but I had a secret weapon. Jim Johnston of Ft. Duquesne Military Miniatures rents my studio basement for his casting factory, and he cast several wheels using my masters. That saved a lot of time and gave me detailed and identical parts.

After assembling the resin road wheels, I added all bolt details seen in the photo references. The brass strip at the top is from an old, but excellent, Top Brass phototetched detail set; the same parts are currently available from Aber. The resin parts are from an old Verlinden set I had in my spares box, and the styrene parts are Grandt Line nuts.

Here the lower hull, with all bogey assemblies in place, is ready to be mated to the upper hull. Before gluing the pieces down permanently, I made a thorough fit check at this point to make sure that everything was in proper alignment.

I used the T-23 M4 76mm turret from Chesapeake Model Designs, which even came with an aluminum barrel. I glued in two pieces of ¾” metal conduit as my figure tubs – that way I could add a sizing plug to adjust the height of the figures in the turret, just as I’d done with the hull.

The only items I added to the turret were a machine-gun pintle and a set of turret-ring grab brackets to keep the front-heavy turret in place on the hull. Large resin pieces can be heavy, and must be well supported when installed on top of plastic parts.
I usually work with Rust-All, pastels, and various brown oil washes to produce rust effects, but when I saw this “rusting” product from Michigan Discount Models I tried it out. How does it work? Just paint on Instant Iron where you want rust and when dry, paint Instant Rust over the top; the result is instant rust.

This looks like real rust because it is! The Instant Iron is real metal in a paint-like medium, and the Instant Rust is an acid. With some experimentation, I learned to control the rust color by varying the dilutions and the number of Instant Rust coats.

To create thinner rust, just thin the Instant Iron with water. To remove rust in a certain area – like here, on the rear of the upper hull – simply scrape it off. I didn’t use extensive rust effects on my M4, but I’m planning to model a destroyed T-34; lots of thick rust will be just the ticket!

How does that saying go? Test fit twice, glue only once? Seriously, a test fit is exactly what this photo is about. I’m about to add the tools and lots of other details and I don’t want to find out after the glue has dried that I don’t have room to fit the next piece. Using “Mr. Surfacer” on the front of the hull (the gray patches) created finer cast texture.

To add weld seams or enhance the existing weld detail, I super glued sections of .005” and .010” Plastruct styrene rod for the initial seam. After the super glue dried, I spot-washed liquid model cement on the seam. Using the tip of a hobby knife, I pressed the weld seam pattern into the styrene rod.

On real Shermans, “I” beams were often used as the bases of sandbag racks. The real racks were made of various stock shapes of steel. Luckily, Plastruct and Evergreen make these exact shapes in plastic. As I constructed the racks, I kept asking myself how I would build the real thing if I had to.
I used tiny amounts of Tenax to test position all rack parts. After I had decided on final positions I reglued with Testor liquid cement. I left all horizontal plastic lengths extra long so I could more accurately and aesthetically trim them to size later. I also added rod stock so I could add weld seam detail to the racks. The whole process took only about two hours.

The turret rack was constructed the same way as the hull racks except I used .030" Plastruct styrene rod, which bends cleanly without breaking. I drilled and pegged the vertical support pieces at the bottom, then simply glued them on top. Racks were a field expedient, so their construction was anything but neat and clean. Making them look real was all I was interested in.

I detailed all the hatch covers according to reference photos. I used Aber and Top Brass detail sets, Verlinden periscopes, wire handles, and some stock white plastic. The work was easy except for the size of the parts – good tweezers are essential.

The casting numbers and letters on my Sherman are all real sequences but from 10 different tanks. I went over the back of the brass pieces with steel wool, while still on a sprue, to clean off residual chemicals. To place the brass, I put a small dab of super glue in position with a toothpick. I picked up the brass piece with the wet end of another toothpick, then placed it.

This is the excellent Verlinden machine-gun set. I added the chain, bolt heads, pintle cap, brass supports, and a strap around the lift ring. The smaller chain is Aber photoetched brass. If you twist the chain slightly, it looks like linked chain.

The small white discs under the transmission are drain holes and plugs that I’ve added. Make the small indentations using a motor tool flat burr. The white plug is a disc made with a Historex punch-and-die set, a must-have scratchbuilding tool.
All the CMD resin tools are in place. I would usually make and mount each tool individually but this set is so good that I really don’t need to do that anymore. The rear stowage rack is from the Top Brass set (Eduard and Aber also have it). The white styrene fender hangers are scratchbuilt from sheet plastic.

To improve the kit-supplied headlights I hollowed them out with a round burr and then dropped in an appropriately sized MV lens. I placed the lens as late in the building/painting process as possible. After I placed the lens, I gave it a bit of a wash to “dirty” it up.

This is my final “cast of characters,” for the tank crew. At one point I was considering about 13 different figures and tank riders, so it took a while to decide which ones would end up on the tank. The figures are a mix of Nemrod, Verlinden, DML, and Hornet, with some Verlinden heads.

I had always planned to have the tank commander eating out of a can. Finding a suitable hand wasn’t easy, so I sculpted one of my own. To give it the right shape, I molded the palm around a dowel. As a bonus, the hand is actually holding the aluminum foil can. I used long-setting Magi-Sculpt two-part epoxy putty to create the commander’s hand.

After the hatch cover was set, the driver figure didn’t fit, so I had to reduce his shoulder/arm width to make it work. This is the time to discover glitches like this; forcing a fully painted figure into an undersized hatch could scratch the figure or break the hatch cover.
I was nervous about transfers and waterslide decals actually
snuggling down over some of the details, so I used the Eduard
star masks. After painting the model in its base color and letting
it dry, I oversprayed the appropriate areas the color of the mark-
ings. A light coat was all it needed.

The base color must be dry and hard before you apply the
masks. I use acrylic paint, which is fine after a couple of hours
under a fan. Since using a hard burnishing tool might have cut
into the masks and ruined the undercoat, I used my fingers. I
eyeballed the positions this time, but it never hurts to measure.

Next, I oversprayed with the basic hull color, making sure to
cover all the marking color coats and the masks. I had to cover
every drop of all that white overspray.

Before the hull color had completely dried, I lifted off the masks.
The tank markings should have been a top layer of paint, but it
was easier to use this method and keep the paint edge thin.

In the next story ...

In the next story, Bob adds the details that really
make this Sherman stand out:
* scores of sandbags
* corrected and weathered track links
* “duckbill” track extensions
* realistic stowage pieces
* superdetailed aftermarket parts
* extensive weathering with chalks and oils

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O'Fallon, MO 63366, 636-379-0077, www.verlinden-
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ONE SPECIAL SHERMAN

Bob Collignon’s M4A1 (76) late-war tank is as realistic as he could make it. Take a look “behind the scenes” and see how it all came together.
Part 2: How to create realistic sandbags and authentic weathering effects

By Bob Collignon
Photos by Collignon-Jarosz Photography

When you decide to go for it and build the ultimate model – the ultimate model of anything – it is often the quality of the details that matters most.

Small items (such as sandbags) deserve the same care and attention in construction as the kit itself. A model like this Sherman may look difficult to duplicate, but each individual step of its construction is within your reach. Don’t give up! With patience, practice, and familiarity with the materials, you can produce dramatic results.

I got my technique for realistic sandbags from an article in the first issue of FSM (see References). The tiny bags, made with tissue paper and sealed with white glue, are filled with sand and can be positioned on your model just like real ones.

HOW TO CREATE REALISTIC SANDBAGS

1. First fold
2. Second and third folds
3. Trim tabs ½” – ¼” wide
4. Glue seam
5. Cut to length
6. Roll and flatten tube so seam is in middle of side; clip corners at bottom
7. Fold bottom tabs inside
8. Glue seam
9. Shape bag and fill with fine sand or sifted dirt
10. Tie off or glue other end
Once the dry sandbags were in place on the racks, I coated them with a house-paint-thick mix of white glue, acrylic paint and water. Now's the time to rip any bags open; once dry, the bags are as hard as plastic and so is all the sand inside. I put the slurry in a sealable container in the fridge to keep for my next project.

For my groundwork/mud/dirt/slop mix, I added Celluclay and various railroad groundwork products to the sandbag slurry, then applied it to the model with various sizes of China bristle brushes. Color can be controlled by using acrylic paints and/or the new range of colored (white-glue based) glues, available at craft stores.

I had to work slowly and decisively when applying the groundwork mix, keeping a protective layer between the glop and the work surface. Reference photos showed me where mud would end up. Any excess mix had to be removed while still wet – once it dried, it was hard as a rock.

Many times while building a model I get an idea of the various parts I might want to use. Sometimes the idea changes, sometimes it stays the same, sometimes it expands, but I never commit myself to an idea until the last minute. The parts in the photo may or may not be present on the final model.

For the U.S. steel chevron tracks, AFV Club’s end connectors with “duckbills” joined RHPS’s track shoes flawlessly. I sanded the duckbills while they were still on the sprue, used sprue cutters to get as close a cut as possible, then cleaned them up with a No. 11 blade.

To fill the sinkholes efficiently, I first built the full track runs – 79 track shoes and about 80 “duckbills” per side. I laid the run of track flat. Using Squadron white putty and a flat/square blade, I ran putty down the track length, filling the sinkholes.

I had to be as neat as possible when filling the sink holes, because the mess is much harder to clean up after the putty hardens. I used a toothpick to remove excess putty from between the track shoes so the overall track would remain flexible.
Here I’m using a soft wire brush to remove additional hardened putty. Because I’m going to “gunk up” the tracks, I will be able to hide some of the excess white putty. The wire brush does a nice final cleanup. Now it’s time to apply the first coat of paint to the tracks.

I sprayed the finished tracks with titanium buffing Metalizer, then buffed them with a stiff-bristled craft brush. Next I hand-painted the rubber areas of the track shoes with a much thinned Tamiya and Polly Scale dirty black mix, then got ready to mount the tracks to the tank.

To help the stowage items look soft, I made “bridging” items from Magic Sculp. I did the work on an old piece of 1’ x 2’ double-thick glass sprinkled with talcum powder so the putty wouldn’t stick to the glass or my fingers. I positioned the bag or tarp, created a basic shape, then worked in the real detail.

I pressed the putty down to “marry” it to the surrounding area, then sculpted folds and straps. To join pieces of putty, I put talc on them, brushed water on the areas to be mated, and stuck them together. After all the putty had hardened (two hours), I painted all the stowage black to help me spot any surface flaws.

Why a black base coat? If I missed any spots while color painting, they wouldn’t be as visible. Here I’ve removed the water can for detail painting. While that piece of putty was still soft, I pressed the talc-covered water can into place, then removed the can until the putty hardened.

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Wash with care

Before mounting the tracks on the tank, I gave them a final dark wash with a mixture of enamels and Testor brush cleaner. One run of track went on with no problem. But the wash on the second side reacted to the end-connector mounting pins, making them soft and easily broken. And break they did – what a nightmare! I had to brass-pin almost half the track connections. Be very careful with those enamel washes, because they can cause LOTS of extra, frustrating work.

— Bob Collignon
Hard plastic items like these U.S. musette bags usually “float” on the model surface and don’t look very real. I wanted to see if I could make them look like cloth, then match them to the surface of the stowage area. These bags are from Tamiya’s Allied Stowage set.

I ground away the sides of the bags with a dental burr, then washed the joints with Testor liquid cement to soften the plastic. I placed a blob of Magic Sculp on the back of each bag, pushed it into place, then sculpted the putty as part of the sides of the bags. Next I added putty hang straps and painted the bags.

I used Tamiya olive drab as my base color, then mixed it with different amounts of Polly Scale Panzer dark yellow to create my highlight colors. Once Tamiya paint is thinned for airbrushing, about 70/30 paint-to-thinner, it also becomes an easily worked paint for hand brushing.

I use powdered soft graphite – and silver drawing pencils – to give edges a metallic look. I rub a pencil against a coarse sanding stick, then apply the powder with a stiff, fairly short-fibered brush. The surface can be buffed to a higher sheen by “polishing” with an even stiffer (china bristle/boar’s hair) brush.

Hot tip for cool lights

Competitions are usually held in rooms with fluorescent bulbs, which produce light with a greenish-blue cast (artists call this “cool” light). If the colors on the model are also cool tones, contrast is reduced.

To help your model stand out in a “cool” display room, try to use “warm” colors – shades with more of a reddish cast. I chose the Polly Scale Panzer yellow because it is slightly “warmer” than the similar Tamiya color.

– Bob Collignon

Here’s my finished crew. I always place my small figures (1/35 scale and 54mm) on mounting posts for easy and “fingerprint-proof” painting. The figures are painted using various brands of fine quality oils for the skin tones and Vallejo and Polly Scale acrylics for all cloth.
I attempted to integrate all elements, large and small, on the Sherman. Even the small details were treated as mini-models. On similar items, like Jerry cans (Bayardi products), I tried to vary the color of each container. Most of the model’s colors were similar in tone, but I added as much variation as I could – using matte, satin and gloss finishes to break the monotony.

For the map case, made from a Verlinden part and a Royal strap, I drilled out the pencil loops and added sprue pencils. The “paperwork” comprises sanded-thin Verlinden and Hudson & Allen products that I glued over the cast-in details. I thinned the map paper by sanding it against a medium-coarse sanding stick.

I used .010” rigging thread to tie down my deck stowage. It has some sheen to it, so I painted it to match the rest of the stowage. If I remember my Boy Scout training correctly, the knot is a sheepshank. (It is. – Ed.) The stenciling on the various boxes came from Verlinden and Hudson & Allen.

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SHERMAN SPECIFICS

A guide to Sherman tank types and terms

By Cookie Sewell

While other tanks were bigger and better, or acquired more notoriety, the M4 Sherman medium tank is one of the most widely modeled subjects ever.

However, there is usually no firm identification with a specific model of the Sherman tank family. What you think of as a Sherman really depends on where you first encountered the Sherman – World War II, Korea, the National Guard, in front of your local American Legion or VFW hall, or on Saturday mornings being stomped into oblivion by Godzilla! It was used around the world, and most users put their own “stamp” on the tank while in their service.

Armor enthusiasts use a lot of shorthand when describing various Sherman models. Here is a list of basic terms, plus descriptions of some of the variations in key parts.

Sherman terminology

VVSS – Vertical Volute Spring Suspension. This is the early type of Sherman suspension. The springs which the tank uses for suspension are mounted vertically inside the suspension units or bogie assemblies. Its most obvious features are single wheels and a ribbed cast housing over the springs themselves, 1.

Return rollers – All Shermans with VVSS had small rollers under the top or return run to prevent the track from jumping off the drive wheels or snagging. There were three basic types of return rollers, or “helper wheels.” The first was mounted directly on top of the suspension unit; some modelers call this the “M3 Style” as it was the same type used on the earlier M3 series tanks. Next was the “straight top” return roller, which bolted on at the back of the suspension unit. Its top was parallel to the top of the suspension unit itself. These rollers often had to have extensions or “pillow blocks” to lift the wheels up high enough to prevent the track from snagging. The last type was the “upswept” return roller, which was slanted upward and to the
rear of the tank to provide more lift in the roller.

**HVSS** – Horizontal Volute Spring Suspension. This is the later suspension, which let the tank travel better over rough terrain and was more comfortable for the crew. The springs lie flat on the bogie assembly and are fitted in opposed pairs. Its most obvious features are dual wheels with a shock absorber above the cylindrical spring units, 2, 3. (It also uses wider tracks.)

**Nose** – The transmission on the Sherman and its predecessors was at the front of the tank with the engine at the rear. An armored cover was placed over the transmission, held in place with bolts for access to replace or repair it. There are three types of covers, called “noses”: three-piece, the first type, which consists of three sections held together with large flanges fastened together with bolts; soft nose, the early type of casting, which rolls under fairly smoothly; and sharp nose, which has a pronounced wedge shape to the front.

**Hulls** – Shermans came with one of five basic hull types. The *early cast hull* was very smooth with tiny crew hatches, and the *late cast hull* was much more bulbous with large crew hatches. The *early welded hull*, a flat-sided hull with small hatches and a sharply slanting front plate or glacis, was also called the 56-degree hull for its slope. The *late welded hull*, a flat-sided hull with large hatches and a steep angle to its front plate, was sometimes called the 47-degree hull. Finally, the *composite hull* was a flat-sided welded hull with a front section similar to the front of a cast hull welded to it.

“Early” tanks are also called “dry stowage” as ammunition was stored in racks; “late” tanks are called “wet stowage” as their racks were ensconced in fluid-filled bins which would put out any fires caused due to damage, lessening the chance of an explosion.

**Turrets** – Shermans came with one of three basic types of turrets. The first turrets were single-hatch types, which had only one hatch on the right for the turret crew to get in and out of the tank. All of these turrets had a very steeply angled rear to the turret (also called a “low bustle”). All of them carried short 75mm cannons.

The later turret type was the two-hatch turret, which had a new hatch on the left for the loader to use when entering or exiting the tank. The rear of the turret roof was much flatter (also called “high bustle”), and this turret could mount either a 75mm cannon or a 105mm howitzer. The last turret type was called the T23 since it looked similar to a turret designed for a prototype tank called the T23. It had two hatches, but was larger and had an undercut at the rear of the turret and a totally flat roof at the rear. This tank mounted a long 76mm gun.

**Cannon** – A British 17-lb gun was mounted for Shermans in Commonwealth service; French 75mm or 105mm weapons were used for Israeli service.

U.S.-based Shermans carried four different main guns, including either the very short M2 75mm gun (first seen with a large counterweight on its end to compensate for the difference in weight with the M3 gun) or the more common M3 75mm gun. Shermans also mounted the M4 105mm howitzer for close
support artillery in U.S. divisions.

The final U.S. models carried the M1 76mm gun, which was primarily designed for tank-versus-tank combat. These came with a smooth barrel or a threaded muzzle for a muzzle brake. Some early 76mm tanks came with a smooth “keeper” which screwed over the mount for the muzzle brake until production muzzle brakes were issued (see Italeri’s 1/35 M4A1 kit above).

Tracks – There are a large number of track types used on Shermans. Of all the aftermarket accessories for Sherman kits, tracks are by far the most popular. Modelers have names for tracks which have to be “translated” in order to get the ones desired. They include the following:

VVSS Tracks

- Rubber block – either T41 “reversible” or T51 “non-reversible” (thicker on one side than the other). Smooth, flat track links.

Rubber chevron – T48 tracks. A thick V shape on the outside of the track link, which when correctly installed on the tank has the “V” shape when viewed from the front.

Steel chevron – comes in U.S. (T54 and T62 types) or UK patterns; UK ones are more rounded. T54E1 tracks have gaps on either side and are the most common U.S. ones used.

Three-bar cleat – T49 tracks, an all-steel link with two bars on one side and one on the other for increased traction on hard ground and ice.

Canadian dry pin – Canadian-produced steel links which required only one pin to hold them together. These were found

1 Sherman models come in all scales and mediums. Here are three styrene kits – Arii’s 1/350 scale M4A1 76mm (middle), the Heiser’s Models 1/87 scale M4 (bottom), and Italeri’s 1/35 scale M4A1 76mm. Cookie Sewell photos pp 36-37

Background reading:
Four essential books on Shermans

The Sherman Tank in U.S. and Allied Service by Steven J. Zaloga, Osprey, New Vanguard No. 3, is a concise operational history of the Sherman tank in U.S. and other Allied service.

Walk Around: M4 Sherman by Jim Mesko, Squadron/Signal Publications, is a great detailed single-source reference for modelers of Shermans.

Another good book is The Modeler’s Guide to the Sherman: A Complete and Comprehensive Guide to Modeling the U.S. Gun Tank in 1/35 Scale by Pete Harlem, Ampersand Publishing. It includes photos of the models under construction and finished, actual Shermans, and a number of plans and detail views of specific items of “Shermania.”

If money is no object the best single-source reference is Sherman: A History of the American Medium Tank by R.P. Hunnicutt, Presidio Press. It now costs $100 but in 575 pages it covers a true wealth of material on the M2, the M3 and the M4 series tanks, plus Commonwealth variants and all of the “cousins.” — Cookie Sewell

Versions and features

The M4 fixed the one great problem of its predecessor (the M3 Lee) by having a large rotating turret with the 75mm cannon and a coaxial machine gun, plus a flexible bow gun and an antiaircraft machine gun. The cannon and machine gun calibers changed over the M4 production run, as did the design of the hull, turret, and running gear, but all were clearly recognizable as M4 series tanks. More than 49,000 M4 series tanks were built. The following is a “cheat sheet” for Sherman types:

M4 medium tank (6,748 built) – M4 tanks had a solid engine deck and a Wright/Continental air-cooled radial engine. They came in variations as M4 Early (three-piece nose, 56-degree hull, single-hatch turret, 75mm gun), M4 Late (soft-cast nose, 47-degree hull, double-hatch turret, 75mm gun) and M4 Composite (sharp-cast nose, composite hull, double-hatch turret, 75mm gun)

M4 howitzer (105) tank (75 built) – sharp-cast nose, 47-degree hull, double-hatch turret, 105mm howitzer

M4A1 (6,281 built) – All M4A1 tanks had a solid engine deck and a Wright/Continental air-cooled radial engine. M4A1 Early (three-piece nose, rounded hull, single-
hatch turret, 75mm gun) and M4A1 Late (soft-cast nose, rounded hull, single-hatch turret, 75mm gun).

M4A1 medium tank (76) wet stowage (3,426 built) – sharp or soft nose, bulbous hull, T23 turret, 76mm gun

M4A2 medium tank (8,053 built) – all M4A2 tanks had a small set of grille doors in the engine deck and twin GMC diesel engines (soft-cast nose, 56-degree hull, single-hatch turret, 75mm gun)

M4A2 medium tank (76) wet stowage (2,915 built) – sharp-cast nose, 47-degree hull, double-hatch turret, 75mm gun

M4A3 medium tank (1,690 built) – all M4A3 tanks had a large set of grille doors in the engine deck and a Ford GAA V-8 engine (soft-cast nose, 56-degree hull, single-hatch turret, 75mm gun)

M4A3 medium tank (75) wet stowage (3,071 built) – sharp-cast nose, 47-degree hull, double-hatch turret, 75mm gun

M4A3 medium tank (76) wet stowage (4,542 built) – sharp-cast nose, 47-degree hull, T23 turret, 76mm gun

M4A3 howitzer tank (105) wet stowage (3,039 built) – sharp- or soft-cast nose, 47-degree hull, double-hatch turret, 105mm howitzer

M4A3E2 assault tank (254 built) – special 40-ton "Jumbo" model with thicker armor

M4A4 medium tank (7,499 built) – all M4A4s had an extended hull and a Chrysler “Multibank” 30-cylinder engine (three-piece nose, 56-degree extended hull, single-hatch turret, 75mm gun)

M4A6 medium tank (75 built) – the M4A6 had an Ordnance-designed air-cooled radial diesel engine (sharp-cast nose, composite hull, double-hatch turret, 75mm gun)

British versions used a simple designation system:

- Sherman I M4
- Sherman II M4A1
- Sherman III M4A2
- Sherman IV M4A3 (never used)
- Sherman V M4A4

The most common British versions were the II, III and V. The British created “Firefly” models with 76.2mm 17-lb guns; these carried a suffix letter C (e.g. Sherman VC Firefly). Other suffixes were A for 76mm gun models, DD for “Duplex Drive” or “swimming” tanks, and Y for HVSS-equipped tanks. A Canadian M4A1, dubbed the “Cruiser Tank Grizzly I,” was only briefly produced, as U.S. sources were able to meet Commonwealth needs. – Cookie Sewell