

# INDEPENDENT GAMER 1: SCRATCHBUILDING WEAPONS FOR 1/64th BATTLE CARS



# *Independent Gamer 1: Scratchbuilding Weapons For 1/64<sup>th</sup> Battle Cars*

By JC "Augustus" ([hexcommand@aol.com](mailto:hexcommand@aol.com)) For The Autoduelin' On I-64 YahooGroup

**For use with: IIM's Hex Command: Streets™, Road Rage™, Axles & Alloys™, Car Wars™, and other fine road wars genre rules. All rights reserved. No part of this report may be reproduced without the expressed written permission of the author. Permission is granted for personal use only.**

This report is the first in a series of redone articles providing alternate methods for the wargamer to construct their own models without reliance on industry products. The weapons modeled here would be best used for near-future or science fiction type genres, specifically road wars combat genres, though this is merely a suggestion and with a few tweaks, it would be possible to place these models in multiple eras. However, this article will be written from the stand-point of the road wars player.

It is also important to understand that while detail is a good thing, it is something that can be taken overboard where the model ceases to be a wargamer model and instead becomes a showpiece you will worry about handling. So, as caveat, this article will also look primarily from the perspective of trying to meld detail with hardiness. Most of vehicles and items modeled herein are left unpainted to allow for a better understanding of the process.

Also, keep in mind, most of these ideas will take into account the screwy scaling of what we hope 1/64<sup>th</sup> scale Matchbox/Hot Wheels vehicles. No one making 1/64<sup>th</sup> scale diecast vehicles holds perfectly to that scale, so it forces the prospective wargamer armament manufacturer to hold to a scale that "looks right" because most vehicles can vary a bit from 1/72 true to 1/60 or more. For me, 1/72 is close enough when I need to consult scales. If I need to draw your attention to the scale, "vehicle scale" will refer to using your own "looks right" feeling.

All that said, remember to have fun constructing your models!

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## **TOOLS AND MATERIALS**

It would be difficult and a waste of space to go over every single tool or material that could be adapted or used in some way to make these models. This listing should by no means be thought as comprehensive. What I have done in this section is highlight various tools and materials that will be important to make the models as I have done. However, if you find a suitable part that you think will work, by all means use and find out. If it works out, let us all know at the Autoduelin' On I-64 YahooGroup.

### **TOOLS OVERVIEW:**

Dremel w/ Precision Drill Set #628 & Tungsten Core Diamond Filiment Cutter

- **What do I use this for:** Drilling holes, power cutting, power sanding. You can use a regular drill motor, but it will likely be very difficult to hold onto.
- **Good:** Drilling with hand-powered tools would be very tiring and very difficult. Most diecast vehicles are well-nigh impossible to drill through without powered assistance.
- **Bad:** Expensive. Expect a good Dremel to set you back about 80.00, not including replacement drills, cutting discs, sanding discs, etc. Also, safety is a major precaution. **YOU NEED TO WEAR PROTECTIVE EYEWEAR, EARWEAR, DUSTMASK (or AIR FILTER), ETC. POWER TOOLS ARE NOT TOYS AND YOU CAN BE SERIOUSLY INJURED. PLEASE FOLLOW ALL SAFETY PRECAUTIONS. NEVER EVER TAKE CHANCES.**
- **Where'd I get'm:** Hardware stores, any place that sells power tools. **Let me say this again: You need to take special precautions using these things. If you are under 18, get a parent to help. Someone standing by or helping hold a part or whatever is highly recommended.**

Xacto Modeling Blade

- **What do I use this for:** Just about everything from sculpting to cutting to carving and more. Everyone should have one for this sort of modeling and keep a stock of blades around.
- **Good:** Good quality blades
- **Bad:** Be very careful. Generally, I have found fresh blades seem safer as they are less likely to slip. Change your blades often if you can. Even still, be very careful. Serious injuries can occur.
- **Where'd I get'm:** Hardware stores, craft stores, grocery stores.

Other tools that will be important:

- |                               |                                  |
|-------------------------------|----------------------------------|
| • Dremel Sanding Bits         | • Vices (large and small)        |
| • Scroll Saw (or Jeweler Saw) | • Rulers, Scissors, Wire Nippers |
| • Pin Vice                    | • Sticky Tack, Paper Towel       |
| • Sand Paper, Wedges, Files   | • Needle nose Pliers             |

## MATERIALS OVERVIEW



From Left To Right: Cocktail toothpicks, 1/16" Wood Square Dowel, flat toothpicks, Rectangular body/square profile/sharp end toothpicks.

### 1. Toothpicks & Small Sticks

- **What do I use this for?** Weapon Barrels. Massive number of uses. Get as many different types as you find.
- **Good:** Cheap, available nearly anywhere, easy gluing/mounting.
- **Bad:** Well..it *can* look like a *stick* unless you help it with paint and maybe a bit of modification...
- **Where'd I get 'em?** Any place that sells toothpicks. Craft store or hardware stores for dowels.



### 2. Plastic Toothpicks

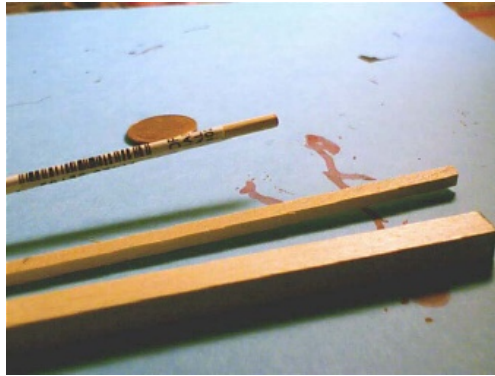
- **What do I use this for?** Weapon Barrels. Pedestrian Mortars. Antenna. Body Blades. All in a small little package! UNBELIEVEABLE!
- **Good:** Cheap, available nearly anywhere, easy gluing/mounting.
- **Bad:** Ain't no baddies on this one!
- **Where'd I get 'em?** Any place that sells toothpicks. Grocery stores.

### 3. Plastic Tube

- **What do I use this for?** Weapon barrels.
- **Good:** Cheap, available, easy gluing, can be a bit more hardy if pinned.
- **Bad:** Is there a bad aspect to plastic tubes?
- **Where'd I get 'em?** Model Store (plastic bulk stock), Craft Store (little goofy tubular beads), Hardware Store (various, just look around).

### 4. Wire

- **What do I use this for?** Connecting things. Possible weapon barrels.
- **Good:** Enormous help for helping glue pieces together.
- **Bad:** It is better to use a good stiff wire. Soft wire will bend and be useless.
- **Where'd I get 'em?** Anywhere you can find it. In a pinch, a paperclip clipped with wire nippers into sections is outstanding for pinning work.



#### 5. Round or Square Dowel, 1/4" thick+

- **What do I use this for?** Missile canisters and missile boxes
- **Good:** Wood dowel is easy to cut and drill. 1/4" and up makes for easy missile boxes and canisters.
- **Bad:** Need to seal it during priming or it looks like wood.
- **Where'd I get'm?** Uh...anywhere you find long round sticks?



#### 6. Round or Square Dowel, 1/8", 1/16" Dowel

- **What do I use this for?** Machine gun rear portion, square weapon barrels, round weapon barrels
- **Other notes as for 1/4" dowel**



#### 7. 1/4" Diameter Rubber Grommets

- **What do I use this for?**urret sections
- **Good:** With a sharp knife, cuts like butter. Nice and smooth.
- **Bad:** Well, it is soft, but at the scale we are working in here, that doesn't matter because it is not *that* pliable in the pieces we use.

- **Where'd I get'm**Hardware Store, look in the Electrical Section. Come in small plastic packs, six to a pack. Made by Buchanan.



## 8. Wood Hole Plugs

- **What do I use this for?**Arrets
- **Good:**Simple, easy to drill, perfect for those straight Direct Hole weapons
- **Bad:**Need to seal it during priming or it looks like wood.
- **Where'd I get'm**Craft Store (wood sections), Hardware Store (DIY furniture area or Nuts and Bolts section usually).



## 9. Thread

- **What do I use this for?**Simulated wiring, hose, numerous uses...
- **Good:**Um...It's thread.
- **Bad:**Don't try to bite it to cut it.
- **Where'd I get'm**Craft store.

## 10. Plasticard/Cardstock/Paper Sheet

- **What do I use this for?**We'll use it for paneling and fixing and etc. Just have some, k?
- **Good:**Thinner the better for styrene plastic sheet. 22 lb. Cardstock is a good replacement, often easier to find. Everyday paper can be used, but depending on the use, results may vary.
- **Bad:**Paper and card, if given too much glue can warp.
- **Where'd I get'm**Craft store, Model store, etc.





### 11. Putty

- **What do I use this for?** Putty Blisters, patching holes. Milliput, Green Stuff, Model Magic, Paperclay, epoxy w/activator or air-dry, comes in a variety of types too.
- **Good:** Make a hole in the wrong place and putty can help. Make a weapon blister for your weapon and putty can help. All hail putty.
- **Bad:** Well, it is putty. So it means you shape it right or you have to start over.
- **Where'd I get it?** Craft store, Model store, etc.



### 12. 2mm Jewel Sequins

- **What do I use this for?** LASER Emitters, round or oval are good, square is also good.
- **Good:** Cheap and you get hundreds for \$2.00
- **Bad:** Ooo..shiny!
- **Where'd I get it?** Craft store. [www.westrimcrafts.com](http://www.westrimcrafts.com)



### 13. Cotton Balls

- **What do I use this for?** Smoke. Painted for "Paint Smoke"
- **Good:** Cheap, easy to work with.
- **Bad:** Can be a hassle to paint.
- **Where'd I get it?** Craft store, Grocer, etc.





#### 14. 10mm Round Discs

- **What do I use this for?** Landmines
- **Good:** Make excellent landmines. Fifty cents for a pack of 30 is a bargain!
- **Bad:** It might do well to note they are a little exaggerated for the scale, but easier to see.
- **Where'd I get 'em?** Craft store. Made by The Beadery.



#### 15. PVA/Elmer's White/Elmer's Yellow/Elmer's Gel/SuperGlue (Cyanoacrylate)

- **What do I use this for?** Filming. Also, some can be used for oil slicks.
- **Good:** It glues things together.
- **Bad:** It can glue your fingers together.
- **Where'd I get 'em?** Anywhere.



#### 16. Black India Ink

- **What do I use this for?** Painting oil slicks.
- **Good:** Goes a long way when diluted by water.
- **Bad:** Better hope you don't spill it.
- **Where'd I get 'em?** Craft or Art store. Windsor & Newton is a good brand.



#### 17. Karen Foster 1mm Adhesive Cork Sheet

- **What do I use this for?** Not necessary, but I use it for road and dropped weapon tiles.
- **Good:** Pliable, limited warping when wet, has removable plastic back with sticky under for gluing to other surfaces. Supremely easy to cut with scissors. Cheap.
- **Bad:** No bad points.
- **Where'd I get it?** Craft or Art store. <http://www.karenfosterdesign.com>

*“So, this thing’ll be ready for the road when?” trailed Foot as he looked at the pieces of his car.*

*“When it’s ready,” said the greasy mechanic, “and not a moment sooner, k?”*

## **CHAPTER 1 BASIC SKILLS**

### **A. DRILLING HOLES:**

Before I get into the specifics of making various weapons, let’s take a look at this helpful skill first. For most weapons, you will probably want to mount them somewhere on the various sides of the vehicle with just the barrel sticking out. Most game rules work on the assumption that weapons are mounted behind the armored (or unarmored) skin of the vehicle. Not to mention, that drilling a hole in the metal side of diecast vehicles means the weapon will have some place to “sit” and the glue will not be so overworked. You could just glue the weapon on, but drilling a hole first and sitting the weapon in it will make the mount far stronger. So, we need to learn how to drill holes before we stick weapons in those holes.

Step 1. Take out your Dremel or drill motor, attach a purposed metal-drilling bit and drill a hole wherever you want to mount your weapon barrel. Keep in mind that you want to use a drill bit that is somewhere near the diameter of your piece. Also, let’s remember that a hole drilled into a flat section is often easier to drill than an angled section, so choose your weapon placement carefully. The vehicle feels nothing, so get drillin’!

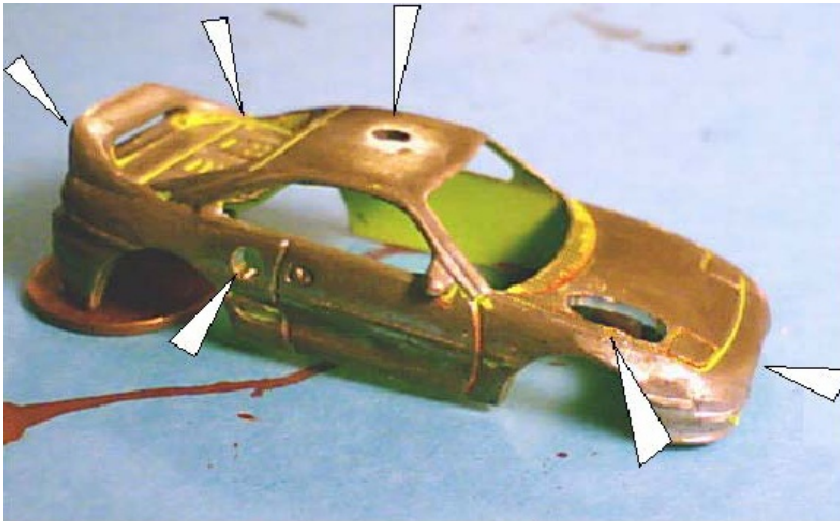
Step 2. You might want to sand away any nefarious bits of metal or debris that sometimes get in the hole. Once you are happy with the way it looks, the new hole is ready for its weapon. Congratulations.

### **B. FITTING WEAPONS TO LOCATIONS & HOLES**

The second skill is pretty simple. Using a hole drilled earlier, you will want to put your weapon in there. Most weapons are far too long to be mounted by just being stuck into the hole and as I mentioned, most rules allow weapons to be mounted behind the vehicle skin. So, a suitable weapon barrel sticking out of a hole is enough.



Step 1. Okay, this is simple. Detailed weapon modeling will take place in the later chapters, but right now, just get out some toothpicks to learn the basics. Take your weapon barrel material and cut it to whatever length you feel is appropriate. Generally, for vehicle scale, somewhere around 3/8" to 5/8" long is a good length, depending on the weapon. However, some people like their barrels long, others short. Think before you cut.



Step 2. Now that we have cut our weapons pieces, we can find a place for it. Time to drill. Maybe on the front? Maybe on the rear? Maybe the rear cockpit bed? Maybe on the side? See also Drilling Holes for tips. Take a little time to think this out as where you put the weapon is probably going to affect where your road warrior can shoot it. The white holes denote some good areas to consider for your future weapon.

Step 3. Well, we have our hole. We have our pieces. Test out the hole with your piece and make sure it fits decently. A little large hole is better than too small. Okay, go ahead and apply your glue to the hole and then apply your weapon barrel. Follow your glue directions to make sure you give it enough time to cure and fully dry before moving to



Hey, look at that! Almost done! Now, take a little putty, glue, or something and lay it around the hole and fill in any gaps like the picture shows. Wow! Ready for painting!

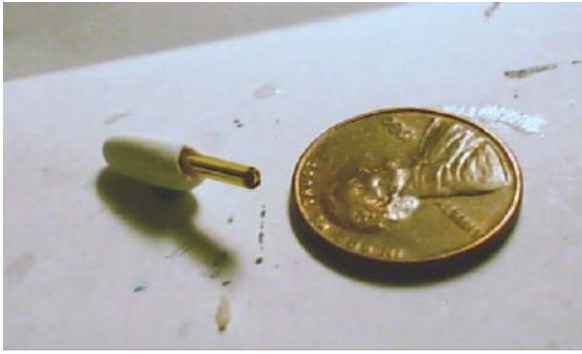
### **C. COVER BLISTERS**

Cover blisters refer to a simple barrel combined with a cover or “blister” on the body of the vehicle. Usually, cover blisters do not first require a hole being drilled and are just used like a mounted external pod of some sort. Modeling them is very quick and very easy. There are two methods commonly seen, Panel Blisters and Putty Blisters.



#### **Panel Blisters**

Panel Blisters are like the picture and are made out of plastic, cardstock, paper, or whatever else can fit the shape over the mounted weapon. Panel Blisters are limited in their ability to follow the contours and curves of a vehicle as they are limited to the extent of the material’s ability to bend. If the vehicle is relatively flat, then a panel blister is a good method to use.



### **Putty Blisters**

The picture above shows an example of a putty mount. Putty blisters are made out of Milliput, Paperclay, Crayola Model Magic or some other type of putty or clay material. Epoxy putties are generally preferable, but I have had good success with air-dry Crayola Model Magic. The putty mount has a good ability to follow whatever curves or bends you need to put it simply by shaping the putty over the weapon. However, be aware that doing this over and over, it may not be possible to keep the blisters symmetrical, which is probably necessary to making the vehicle look good. The picture below shows a possible place for a putty blister inside an oval hole.



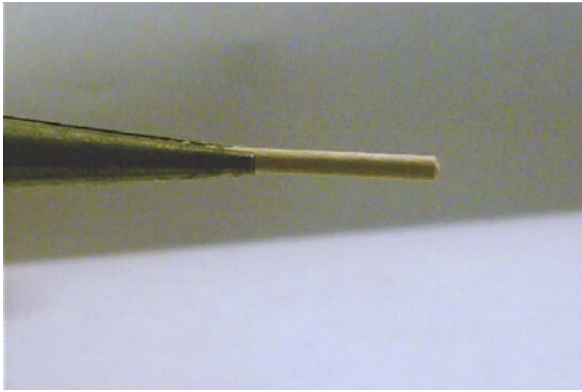
## **CHAPTER 2 DIRECT/INDIRECT FIRE WEAPONS**

*“Darn it!” yelled Foot as his gunner missed a shot with their machine guns. Maybe this road fight was not such a hot idea after all...*

### **MACHINE GUNS:**

The venerable MG. Available in more calibers you can shake a stick at, rat-tat-tatting its way through the battlefield, it's the MG. The basic, meat and potatoes weapon of the Road Wars Genre. Everybody's got one in most road wars games, probably because there are few constraints to their use. Aim, press, and quick firing death flies at your enemy. Looks positively cool too. In modeling the MG, you have a few options as the MG is a pretty simple weapon and can be represented in a host of methods. Most MG's are going to use your thinnest diameter stock as MG calibers are very small in this scale, 1/16" diameter is pretty decent I find.

#### **MG Option 1: *The Simple Gun Barrel***



This is easiest machine gun and typifies the “barrel sticking out” aspect of road war cars. Other weapons will follow with this as well, where only their barrel sticks out. As you can only see the barrel, showing the rest of the mount is unnecessary. Same too with Cover Blisters (See also C. Cover Blisters). It is a good idea to paint this with a gunmetal finish to help it look the part. It will also help if you drill a small indentation into the end of the barrel. About 1/4" is right, shorter if you are going to mount them into the sides of a vehicle. 1/16" Plastic thin rod, wood toothpicks, plastic tube, and plastic toothpicks are all viable uses for MG-type weapon barrels.





This tiny 1/16" plastic "brass" tube is actually a tiny bead. However, as the hole is already present, it saves a lot of work in drilling holes all the time. Thus, it works very well for the simple gun barrel. Look for these at the craft store in the Beads/DIY Necklace section. They come in packs of 1000 for a few dollars.

### **MG Option 2: *The Uncovered MG***

This is typical if you want an external MG or perhaps you show the interior or you want to make a low-tech style pintle ring MG. This is a simple way to do it.



Step 1. Cut a length of square toothpick, dowel, or plastic about 1/2" long. Cut or obtain a length of weapon barrel appropriate for an MG.



Step 2. Glue them together. Glue a small length of toothpick rod to the bottom for a gun mount. Once dry, paint or add to your vehicle.



Step 3. Congratulations, your MG is now ready. This MG here is mounted to a gun mount and has a strip of paper crimped and glued on as a belt feed.

### **MG Option 3: Rotary MGs**

This is an option and builds on the skills previous. Rotary MG, Vulcan, Gatling, all function on the same basic principle. The principle is merely a grouped number of barrels, sometimes odd in number, rotating in sequence to allow for cooling. The lower the temperature in the barrels means a faster fire rate can be sustained without undue barrel wear. Of course, our denizens of the road wastelands don't care – they just know a Vulcan is nasty.



Step 1. Basically, the same as previous MGs. Cut your barrels from your chosen material.



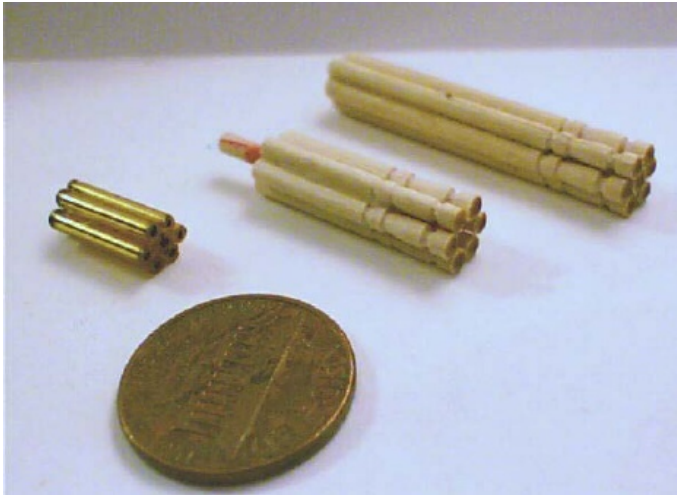
Step 2. Glue the barrels together. Depending on the number you want to use, there correlates a certain pattern such rotary guns come in. For three barrels, a triangular form as seen from the business end is correct. What more than three barrels? Move on to Step 3.



Step 3. Okay, let's say you want more barrels because you just have to have this massive gargantuan rotary weapon of death on you Porsche. You need to cut the number of barrels you want (let's say 6) to whatever length you wish. However, you also need to cut the runner central mount that the weapon will be built on. The runner should be a little longer than the weapon barrels so when you are finished, the runner sticks out the back to make mounting easier.



Step 4. The assembly begins... Glue two of the barrels to either side of the central runner (painted red). Let these cure well before handling because they will form the basis of the rest of the gun.



Step 5. Wow! Look! Our example is in the center between a couple other examples, a longer version and a smaller version made using the same concept with the MG barrels. Pretty simple, eh?

*Grim aimed carefully and hoped the modifications he had made to his monster truck would hold together. The chance prevailed and he pressed the trigger. A roar sounded as the 50mm gun below him sent another evil cycle ganger off the road...*

## **CANNONS:**

Ever just want to blow the snot out of something? Cannons are the friend to arm your vehicle with then. Cannon start out with the smaller 20mm variety all the way up to the big honkin' 120mm of main battle tanks and beyond. Generally, cannon are single-shot, single-barrel weapons firing explosive shells that either explode on impact or post-penetration. For this report, we will concentrate on making the smaller variety as most road wars games will not see many wastelanders running around with main battle tanks. For 20mm up to 30mm cannon a single barrel a little thicker than what you are using for your MG's is close enough for most of the vehicle scales. Telling a 20mm or 30mm from a .50 caliber is pretty difficult if all you had to look at is the barrel. Still, some degree of difference is always nice.

For 20-37mm:



Step 1. Take your toothpick and cut your required length. Generally, cannon are longer barreled than most typical machine guns, but that is not a rule. Take some cardstock and cut a strip of cardstock about an 1/8" in width and long enough to wrap around the machine gun barrel at least once. This card will simulate the flash suppressor seen very commonly on most cannon.



Step 2. Your completed 20-37mm cannon barrel. Ready to mount to a suitable place or hole on your vehicle. Remember to mount it somewhere where the cannon main body (breech, etc.) would have enough probable room to fit, otherwise you might be hard pressed to explain why your cannon is all barrel!

For 37mm+

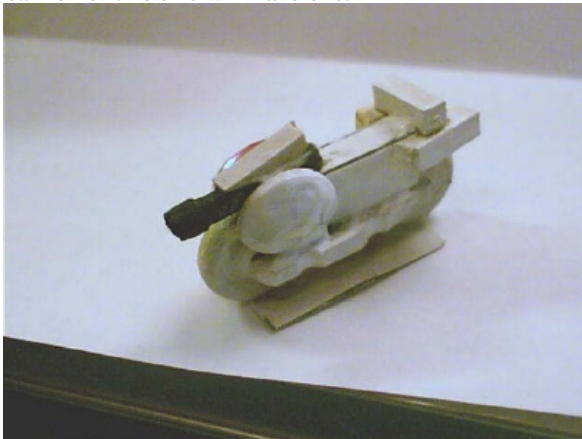


Step 1. Choose a little thicker barrel than your MG. Pictured here is a wood meat skewer that is quite a bit thicker than your average toothpick. Cut to your required length.





Step 2. As for smaller cannon, a flash suppressor is good addition, although not all cannon of this size will have one.



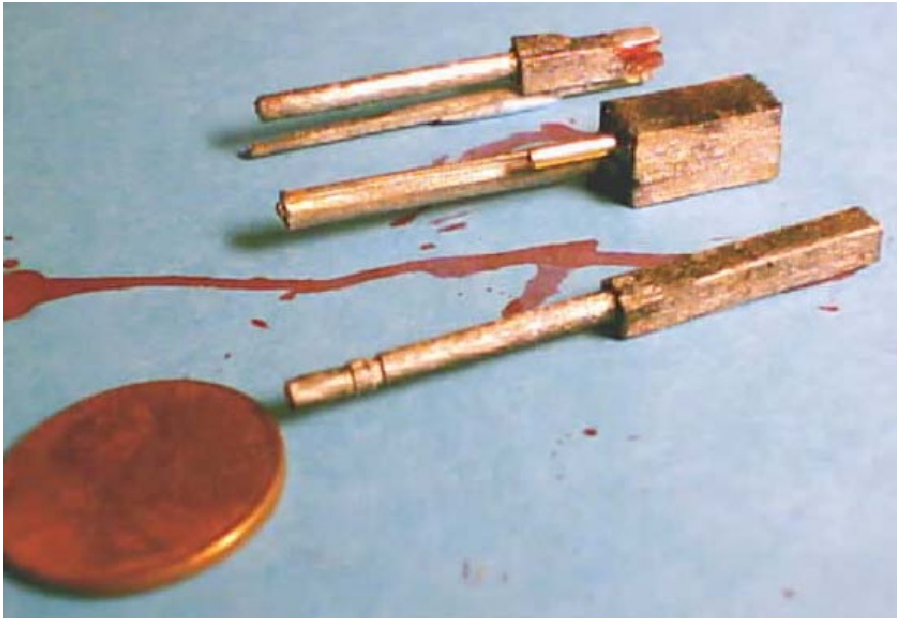
Step 3. Mount the gun and you are done! Your huge cannon is now ready to blow some road rats off the road! Shown here is the big gun forming a rather large percentage of an in-process Budget Bike scratchbuild...

### **CANNONS 1A: *Variations On A Theme***

Some other cannon following the guidelines here...From left to right: a cannon made following the same basic design of the uncovered machine gun with thicker pieces, two "recoilless" rifles made with toothpicks and paper wrapping, and a larger 1/8" cannon "howitzer" with a scratch carriage mount....



Yet more variations....



*Zippping along at 105mph, Augie had more tracers flying by him than air. The gang wanted the envelope. One car came along side and Augie gripped the trigger. Flame lit the night brighter than day and melted armor as the enemy car caught fire....*

## **FLAMETHROWERS:**

Yep. Flame. The other guys might have their machine guns. Or their cannons. Or even their rockets and missiles. But everyone knows stylish road warriors use *flamethrowers*. Nothing else says, “You’re toast” better than a flamethrower.... Modeling a flamethrower is not very difficult and can be done in a few steps. Basically, a flamethrower is a couple of tanks, a tube, and a stick. Ironically enough, they often look like fire extinguishers in a way. Another irony is the flame marking their use often is more interesting to look at on a board than the weapon is. Anyway, you actually have a two options in how you build them. Let’s take a look.

### **Flamethrower Option 1: *The Simple Lighter***

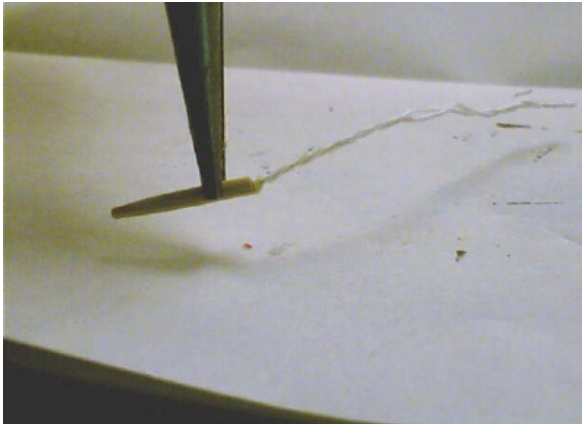
Step 1. This should sound familiar. Find your trusty round toothpick and slice off a little bit of the sharp pointy end to create a blunt end to create a Flamethrower “barrel.”



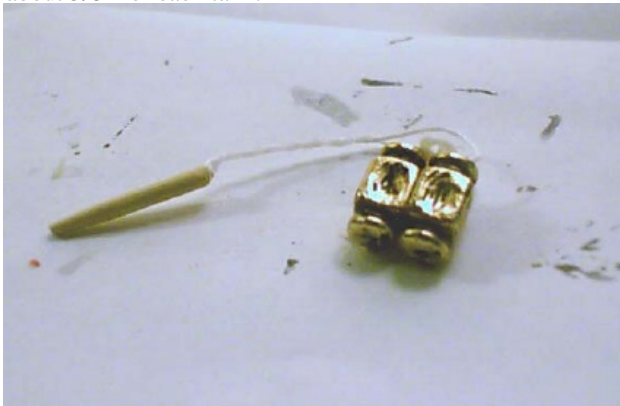
You could stop now and just mount that to the side or rear of your vehicle to simulate the end of a flamethrower sticking out. Or you can move on to Flamethrower Option 2...if you dare....

### **Flamethrower Option 2: *The Not-so-simple Lighter***

Step 1. This more complicated flamer ought to let you get a little more detail for those external mounts. Start out with the same as for Option 1, the flamer barrel. Take out your string and take a look at how far a distance it is from the point where you want the flamer to be mounted and where you want the rest of it to be. That distance will be the length of string you want, unless you want to double the string to make the “gas hose” look a bit more thick. Cut the length of string.



Step 2. Take the length of string and glue it to the end of the flamer barrel. Take out a piece of dowel, a suitable “tank-like” bead, or something else you would like to use for the fuel tank(s). If you have to cut a dowel or something for the tank, a good length is about 3/8” for each tank.



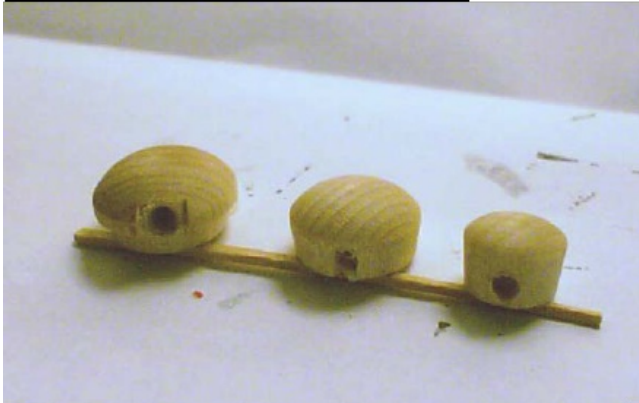
Step 3. Glue the string to the tank(s). Congratulations, you should now have something which looks like the above. You can give it mount it and get a neat effect from having the hose and tanks make an appearance. Also, instead of the string, the potential is here to use something like very small plastic hose or wire.

*The turret swung around and the twin Vulcans spat death. Terry tracked the Vulcan fire over the rear of the semi-trailer, trying to center on a vulnerable tire. "I must one crazy hijacker, trying to hijack a whole convoy myself..."*

## **TURRETS:**

Maybe you don't have enough cash for a weapon to cover every angle. No worries, mate. The turret lets you cover every angle to maximize your money and your firepower. A turret is pretty simple in its mission. Turn the weapon so it can shoot in a different direction. Once again, you have a host of options for making your turrets quickly, cheaply, and simply. Let's take a look.

### **Turret Option 1: *The Classic Drilled***



Step 1. Find a piece that will make a suitable turret body. Using either a Dremel or a pin vice, drill into the piece where you want the weapon to go. It is a wise modeler who first compares the drill bit to the weapon to be sure the drill bit size matches at least close to the weapon diameter. Note, the hole does not need to be deep, just enough to give the weapon some "sit" room.



Step 2. Using your drill, drill another hole into the bottom of the piece for the pin to go. The pin is going to let you sit the turret in the top of the vehicle (a matching hole will need to go into the roof of the vehicle) and turn it or remove the turret and replace it with a different one. Note, this step can be skipped and no bottom hole or roof hole need be drilled into the turret or the vehicle. Instead, a piece of sticky-tack (that stuff that looks like chewing gum, but is used to hold papers to bulletins) on the bottom and you will still be able to turn it.



Step 3. Find your weapon and check it against the weapon hole in the turret. Assuming it fits and everything looks good to you, go ahead and glue it. Once dry, glue the pin to the bottom hole of the turret. Once both positions of cured, your drilled turret is complete and ready to be painted. Congratulations!



### Turret Option 2: *The Sleek*



Step 1. Get a hold of those 1/4" diameter Grommets and trim off one of the circular ring sides. It is best to do this with a fresh Xacto blade.



Step 2. Take the trimmed ring and slice out a small section. The section should be large enough to allow your weapon choice to "sit" between each end of the cut ring. Glue each end of the ring to the sides of the weapon.





Step 3. Take a tack or nail cover or whatever your choice and apply it over the ring/weapon combo. Assuming it fits and you are happy with it, glue the tack/nail cover/etc. to the top of the ring/weapon combo.



Step 4. You should have something that looks remotely like this. If you went with a nail cover, you need to fashion a pin mount as for the Drilled Turret. If you went with a tack, it already has a pin, so all you need to do is match the pin to the hole on the roof of the vehicle, and you are ready to go.



Examples of Sleek Turret

### **Turret Option 3: *The Simple Pintle***

A pintle or “pintle mount” is turntable ring with a weapon attached. Generally, it requires a crewman to move and aim the weapon (sometimes with motorized assistance). Most pintle mounts require a hole be driven into the roof of the candidate vehicle.



Step 1. If you have not already done so, drill a hole into the vehicle roof large enough for one of your crew to stand in. Alternatively, you can make a simple post sticking out an area with the weapon attached to it (as in the bed of a pick-up truck).



Step 2. This will require some scrounging. Find a ring assembly, a grommet like that used for the Sleek Turret or perhaps a metal washer from the hardware store or perhaps a

scratchbuilt ring cut from large tubing. Place the ring over the hole and glue it on. Be sure that the ring will fit the crewman as well before gluing. A grommet has an advantage here in that the underside of the ring has an insert that fits into the hole; allowing the pintle ring mount to turn.



Step 2. Select a suitable weapon and attach it to the ring. It should look like the above.



Step 3. Insert your crewman with a bit of glue and you are done. Ready for painting. Congratulations!! You have a pintle mount!

**Examples of a Pintle Mount and Different Mountings**



*Rob knew this could be his last shot. The helicopter madman was chasing him down the street and Rob knew there was little chance of a second opportunity. He put the car into a bootlegger turn and while the wheels screamed in protest, he depressed the trigger and sent the laser shot straight into the helicopter's rotors....*

## **LASERS:**

And Imperial TIE fighters swoop..oops, wrong genre. Yet, there is just something appealing about a sleek dueling machine or busted up jalopy zooming down the road frying everything with its beam weapon. Most rules have at least one mention of a laser here or there and this report would suffer for lack of at least a mention on how to put the light show on your road war vehicle. Fortunately, making lasers for your vehicle is quite simple. Let's see how.



Step 1. Get out a selection of 2mm jewel sequins. Mix up some putty or clay and shape the substance into a suitable "blister" shape. Allow the putty or clay to dry.



Step 2. Find a place to mount the cured putty or clay on your vehicle. When you find the place, apply some glue, and mount the cured putty/clay. You are ready now to move on to the next area of your modeling, or if that was the last thing you had to do, move on to painting.



Step 3. After painting your vehicle, the last thing to do for your laser is glue on the 2mm jewel sequin. Your sequin will catch light in a prismatic method left unpainted. Once dry, your vehicle and its super expensive laser is ready to zap evildoers!



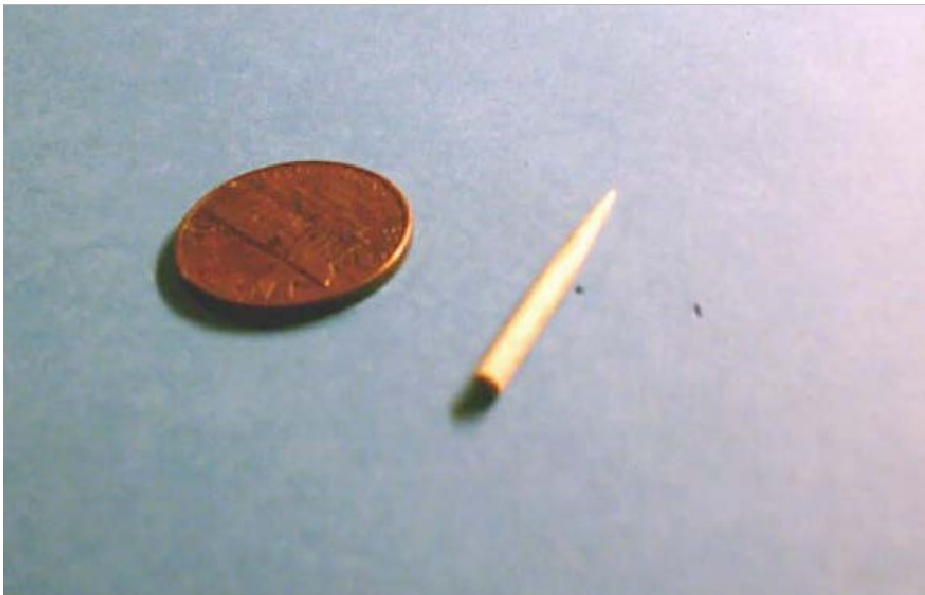
*Chris swerved his car hard right and took aim at the sleek red dueling machine. “Okay, fella, let’s see how you like them rockets!” The rocket leapt from its launcher...*

## **ROCKETS, MISSILES, LAUNCHERS:**

*(EDITOR NOTE: Many thanks to the venerable Chris Johnston for the inspiration.)*

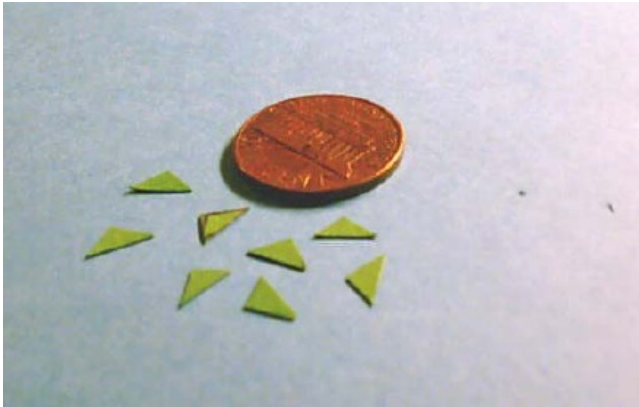
There is something distinctly satisfying about watching your missile or rocket fly on toward the target. Yep, if you want to blow it off the road with panache, a rocket or missile is the way to do it. For modeling, I am not going to make much differentiation between a rocket or a missile. A missile is pretty much just a guided rocket and the differences usually just equate to size and number of control airfoils. Take a look at how they are modeled because, once again, you have a few options.

### **OPTION 1: *The Big Rocket/Missile Of Massive Destruction And More***



Step 1. Take your rounded toothpick and cut it to length. About 1" to 1 1/16" is pretty good.





Step 2. Using some cardstock (or plasticard if you feel ambitious), slice out some little fins. Simple small equilateral or even sharp isosceles triangles are nice.



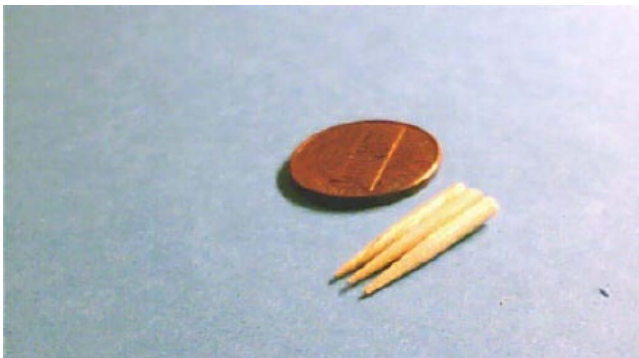
Step 3. Alright. We have our fins. We have our rocket/missile fuselage. Glue the fins to the fuselage and you should end up with something like this.



Step 4. Mounting your rocket/missile: The easiest method is to take a square shaft of scrap plastic or even just a section of square profile toothpick makes a good mount. Glue the mount to the vehicle. My advice is to paint the vehicle and actual missile separately, but it is up to you. This vehicle is unfinished but it does show you the general look you are going for.

### **OPTION 2: *The Covered Rocket Pack***

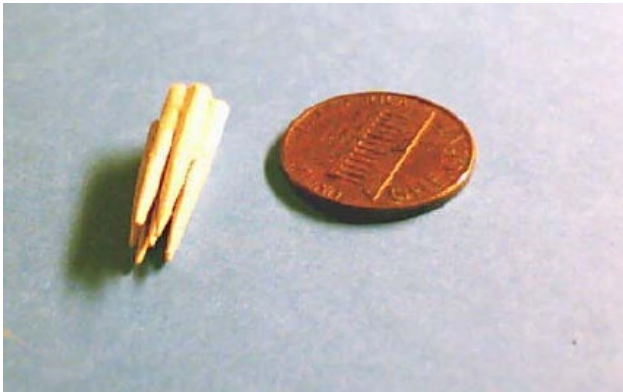
Maybe you want more missiles in a tighter form though...This time we are going to make a “pack” of missiles imbedded in a tube. This will sound familiar if you assembled any rotary machine guns. Let’s see how to do this.



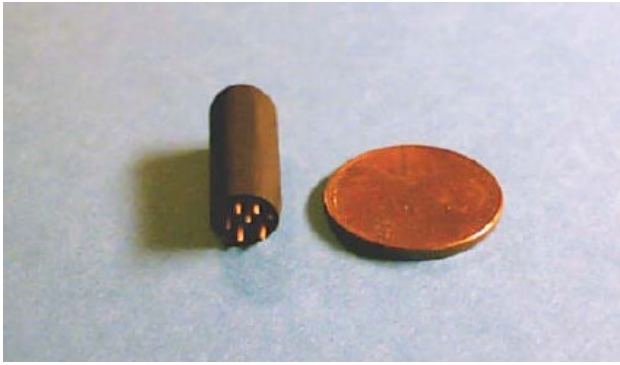
Step 1. Get seven rounded toothpicks. Slice them to a desired length –  $\frac{3}{4}$ " is preferable. Retain the pieces with the sharp point ends. Take the toothpick pieces and first glue three together side by side.



Step 2. Glue the other four into two pairs.



Step 3. Mount the pairs on top and bottom of the first three.



Step 4. You have an option here. You can get out tape and wrap the missiles in a simple wrap, you can use paper, cardstock, or even plastic if you want. We are looking for a nice even tubular shape wrap. The wrap should just appear to cover the missiles from rear to very tip although this is not a rule. Sometimes, you might want the missile tips to show a bit. It is up to you.

### **OPTION 2A: *Variations On A Theme***

In making your Covered Rocket Packs, you might want to break away from the typical “tube” style. You might want a cropped Rocket Pack or perhaps in order to fit a non-standard hole in a vehicle, you need to make an odd-shaped rocket pack. It is even possible that a typical pack would look “off” or ruin the lines of the vehicle, so this option would be helpful. The following pictures are some examples that merely vary the number of toothpicks used.



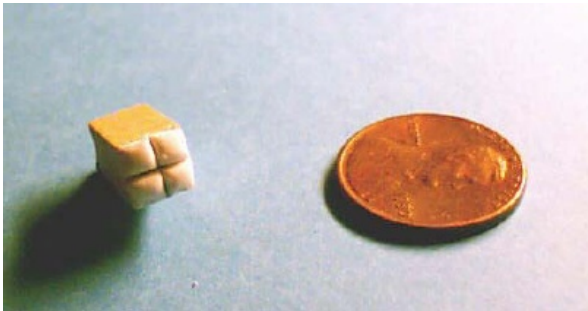
### **OPTION 3: *The Box Missile Launcher***

For whatever reason, you might want to go with something quicker than assembling all these rockets and wraps and such.

Step 1. Select a suitable rectangular box shape for your missile launcher. For this, I will be using 1/4” thick square dowel about 1/2” long.



Step 2. Roll up some putty or clay putty and apply some to the end of the shaft. I have applied 1/16" of putty here. Trim off any excess so the sides look nice and flush.



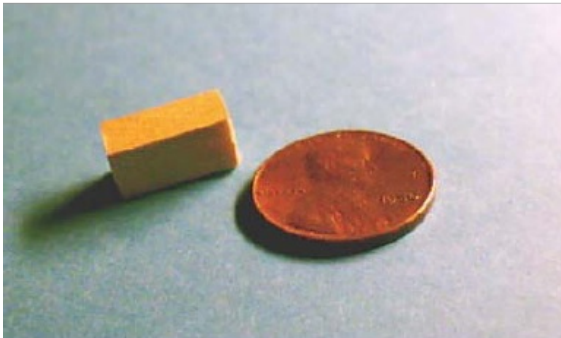
Step 3. Before letting the putty dry, take your Xacto blade and impress it into the putty down the center of the putty and across the center of the putty to make a nice even cross shape.



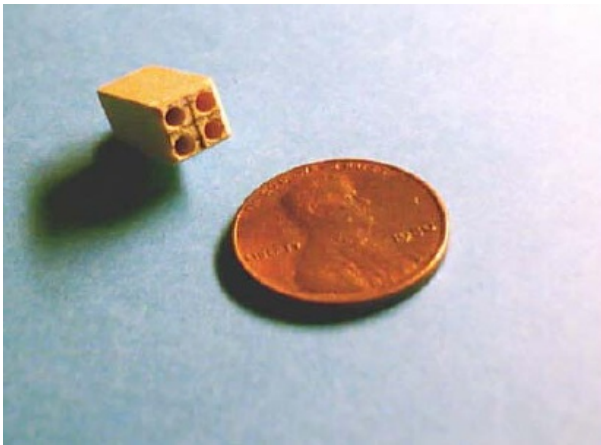
Step 4. Paint it up and Presto! Your Box Missile Launcher is set to go.

#### **OPTION 4: *The Box Missile Launcher II: Return Of The Box***

This is a somewhat more advanced version and will require the use of your Dremel or drill with some really tiny drill bits.

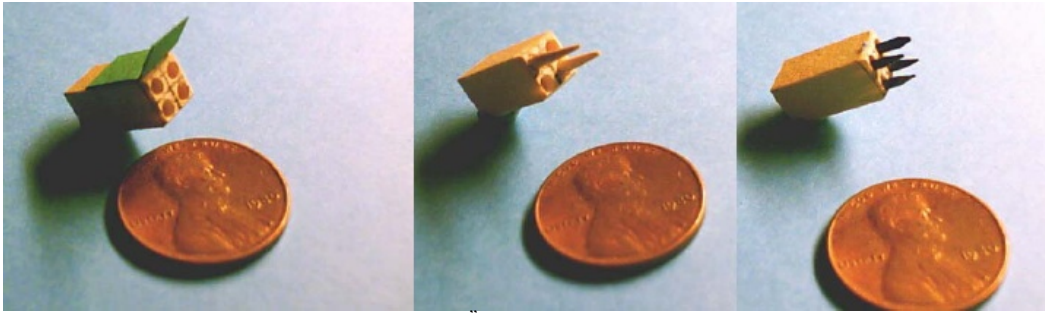


Step 1. Select a suitable rectangular box shape. Again, I am using a 1/4" thick square dowel about 1/2" long.



Step. 2 Make four nice little marks to target your drill with. I am using a 5/64" drill bit to make these holes. Drill the holes. Take your time and practice all practical safety methods when drilling.





Step 3. Choice time! What is nice about  $5/64$ " drill bits is the hole size will just fit a toothpick head. If you are so inclined, you could make the missile heads removable. Or, you could widen the hole with a little larger bit and insert the whole toothpick, it is up to you. Or, you could leave the launcher empty and put a little door on the cardstock flap door in the picture. Or you could leave the  $5/64$ " holes alone and insert the ends of a few small metal nails (for use as mini missiles!) and still leave them as removable! Holy Cow! Look at the options! When you are happy, paint it up, mount it to your vehicle, and you are set to go!



*“Grenade!” yelled Foot and swerved the car across the highway, hoping the swerve hadn’t disturbed his gunner’s aiming....*

## **GRENAD LAUNCHERS:**

Okay, so we want some grenade launcher looking things. How do we make them? Couple options here, but there is a minor technical point. It probably does not serve much use to model tiny grenades (really small at this scale...) and an actual grenade launcher is a pretty simple looking tube affair which means there is not much to it. Still, let’s explore it and see what we come up with.

### **Grenade Launcher Option 1: *It’s A Tube On A Roof That Goes Thump!***

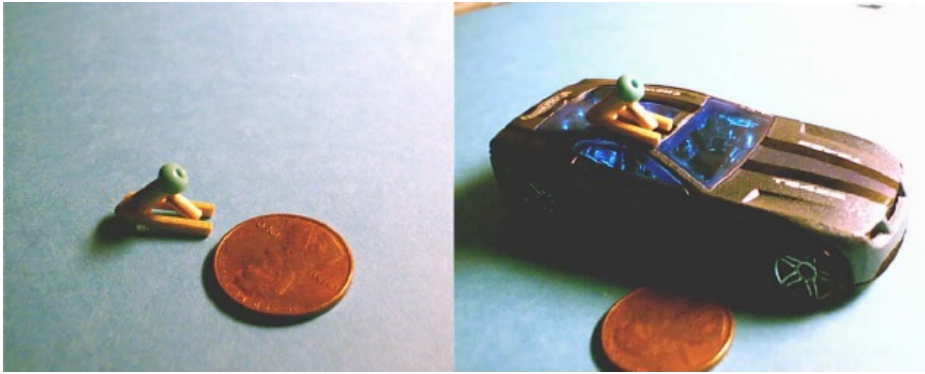
This option is primarily going for a vehicle mounting so is going to be rather simple.



Step 1, Take out a meat skewer. Cut a section about 3/8” in length. Cut a small section of toothpick about 1/4” in length. Take out a 2mm bead.

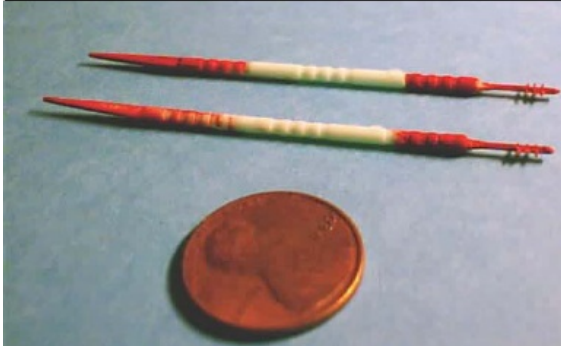


Step 2. Glue the 2mm bead on the end of the skewer bit. Glue the 1/4” toothpick on the skewer post, just behind the 2mm bead. This will function as the grenade launcher’s riser.



Step 3. Cut some side pieces (unless you are mounting to a turret) and glue them so the grenade launcher is sitting at around a 45 degree angle. The vehicle shows an example position for the grenade launcher.

### **Grenade Launcher Option 2: *The Pedestrian Mortar***



Step 1. Take out two plastic toothpicks. Slice off the little antenna and slice off the “blade” on each where the red paint is in the picture. Reserve the cut pieces somewhere where you will not lose them.



Step 2. Using one of the toothpick sections, bend it so that both ends are facing down like little legs.



Step 3. Take the other toothpick and glue as in the picture. The general angle is up to you but a 45 degree angle is pretty decent. Once dry your mortar-like grenade launcher is ready to go to mounting and painting.

### **CHAPTER 3 DROPPED WEAPONS**

Dropped weapons drop out the rear, possibly the side, of your speeding vehicle. That is what they do. Either a small door or rear-mounted nozzle is the usual sign that someone wants to protect their rear as much as they do their front. And while they are at it, do damage to you by forcing you through mines, spikes, smoke, and a number of other things just to make your road war career difficult. This chapter will focus primarily on the items being dropped rather than the workings of what is doing the dropping. A few notes will go over what the likely port on the vehicle would be. Look for this notation

underneath the title for each section. Also, it should be noted that a supply of cut dropped weapon tiles is a good idea to speed construction.

#### **DROPPED WEAPON TILES**

A “tile” is a square of some material upon which the dropped weapon “model” will be laid and glued. Other terms for “tile” might be stand, base, or counter. For this report, “tile” will do. To model the dropped weapon tile, you have a host of choices that fall primarily to personal choice. Sheet plastic is a good choice as it does not warp, whereas cardstock and paper are poor choices because they do. Metal tiles, if you can cut them are nice, but might be unwieldy in situations where you need to be able to pick them easily. My own personal choice is Karen Foster Design 1mm cork sheet as it experiences little warp, stays soft and pliable, and is easy to pick up. An added bonus is that when painted dark grey or black, it actually



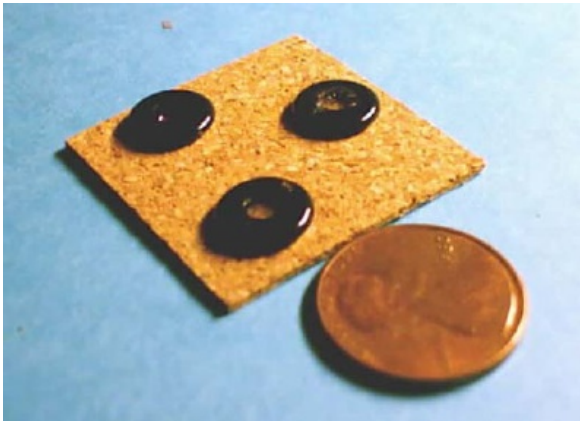
looks a lot like asphalt. Plus, it has a removable sticky back for gluing to other surfaces. On top of which, it is very cheap, costing a dollar per 12” x 12” sheet. The actual size of your tiles is up to you and your rules. I generally cut mine to be about 1 ¼” by 1 ¼” as this is manageable. For larger dropped weapon areas, I cut 1 ¼” by 2” tiles. For really large areas (if needed), it falls on the details of the weapon.

*Rog looked at the price tag and wondered. Mines were great, but on those long hauls to Sunset City, could he really afford the weight? He pondered more and thought back on some road duels he had seen mines used in....*

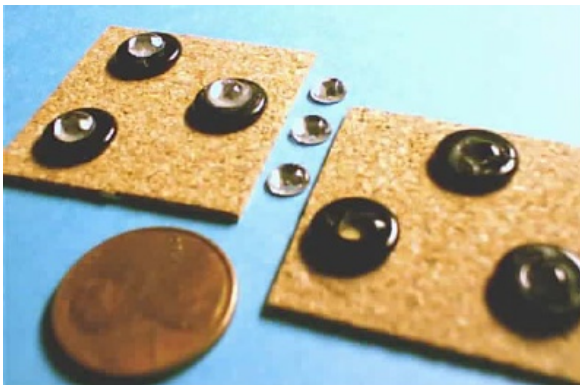
### **MINES:**

**PORT ON VEHICLE:** More than likely a panel door which opens and lays the mine(s) behind the car. Unlikely to be dropped from the side unless given some type of push away from the layer vehicle.

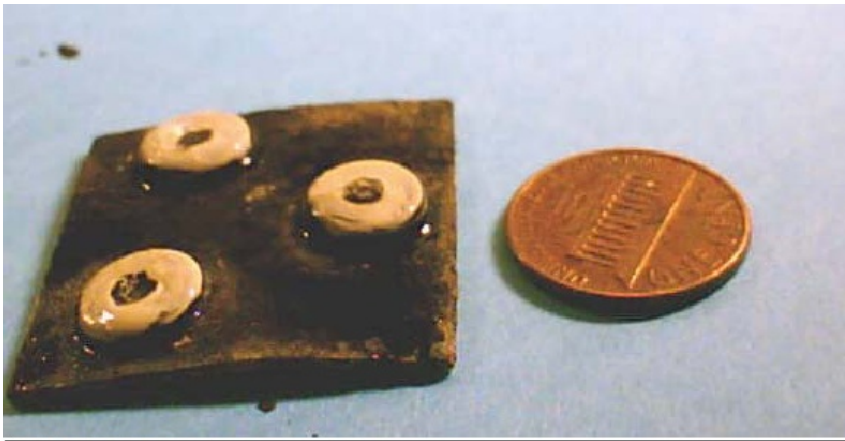
Mine droppers are a little more complicated than the description. They drop, certainly. But is it wise to drop a contact explosive device in a violent manner? Probably not. But, we do not have to worry about that. All we have to worry about is how to model the end result. There are not too many options to making mines per se. What we are looking for is a shape that screams “LANDMINES!” to any and all players. A round disk with bulge near the center is the most common impression and so this is what we will try to model.



Step 1. Get out the 10mm ring discs mentioned in the Materials Overview. Three is decent for the tile. Glue the ring discs to the tile in whichever pattern you like.



Step 2. Choice time! You can drop some more glue (PVC/Elmer's is advised) or putty into the ring disc center and have a flat-type mine or you can go the extra distance and glue 2mm round sequins over the center. Up to you.  
Examples of finished mine tiles.





*Smoke covered the highway ahead. It made Alphonse wonder what lay behind it. Mines? Cyclists? Eco-commandoes? Zombies? IRS? Who knew but Alphonse didn't like it....*

## **SMOKE, PAINTED SMOKE, EXPLODING SMOKE & TEAR GAS**

**PORT ON VEHICLE:** A simple vent or nozzle is a good idea to model the gaseous dispenser on your vehicle. A 2mm bead by itself would be perfect as it looks like a nozzle.

Smoke and other gaseous dropped weapons are a viable alternative to heavy mine

systems. Painted smoke is a variation and consists of a cloud of paint, which, when a vehicle drives or flies through, adheres to the windshield and blinds the occupants.

Exploding smoke is another variation and generally means some type of fuel-air explosive – very dangerous weapons. Modeling smoke and the others is easily done and very cheap. The common cotton ball, used for decades by miniature wargamers, has little competition in the realm of modeling gaseous weapons or effects.



Step 1. Pick some cotton balls out of their bag and stretch them into interesting shapes. A typical “puff ball cloud” look is recommended. Take your smoke and spraypaint them black and/or grey. Painting smoke with a brush will not work very well, so it is not recommended that you do so. Leave to dry.

Step 2. Take out some of your cut dropped weapon tiles. Paint them up for roadway or just leave them as is. Apply some glue over the top and take some of the dried smoke and lightly settle it onto the tile to prevent squishing the cloud. That's it. Piece of cake.

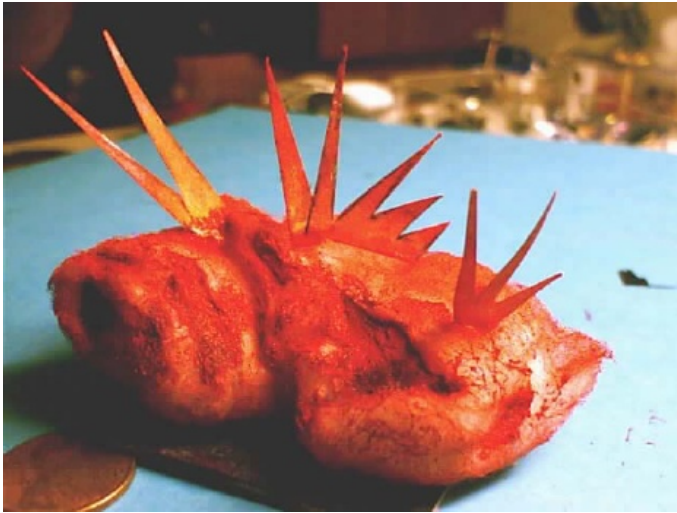




Step 3. If you want to model Tear Gas, I would suggest using green or tan spraypaint.



Step 4. Painted Smoke might be best served as something highly irregular looking, blue or pink or some neon color spraypaint is recommended as it will stand out on the board and prevent confusion.



Step 5. Exploding Smoke is the same as for regular smoke with one important difference. Given that Exploding Smoke usually starts out *looking* like regular smoke, the drivers can be in for a nasty surprise when it suddenly explodes. I usually model exploding smoke with red spray paint and add some painted strips of card to the smoke like the picture above. That way, when it is time for the one-time regular smoke to explode into exploding smoke, you have something to show the difference and your players get to make all sorts of explosion sound effects (sound effects are highly recommended!).

*Owen broke right, then left, then right again. He asked aloud, "Where are they getting all this oil from and what was that green stuff I drove through?!" He swerved again while the car ahead dropped yet more oil. Owen wondered if this road rally might just be a serious issue after all...*

## **OIL SLICKS, FLAMING OIL SLICKS, AND WEIRD LIQUIDS**

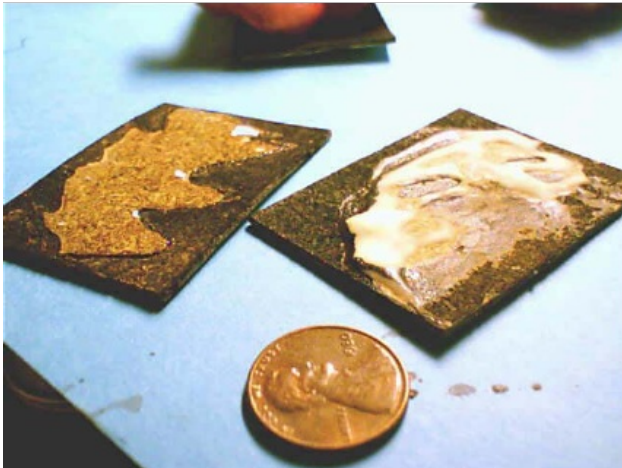
**PORT ON VEHICLE:** Most liquids are flushed out via a hose, the rest of the actual mechanical workings shielded within or underneath the vehicle. As a result, again, a nozzle might be an answer, though for liquid weapons, it perhaps suggests the use of a bit of a few electrical wires cut short and glued underneath the very rear edge of the vehicle.

It almost seems counterintuitive to drop oil when most road wars games think of oil byproducts as being the most precious thing. Still, it never fails that laying down a slick of black gold sends your opponents into a tizzy of action to avoid it. Indeed, speeding along at 80 mph the last thing you want to do is hit a slick that robs your traction. And what if it is flaming oil?! Or some other weird liquid like acid?! EEEP!

Let's take a look at how to model the slicky swerve sauces of destruction.

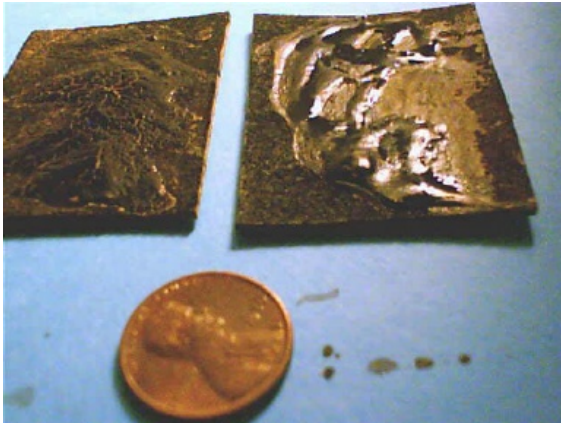
### **OIL SLICK**

Step 1. Paint a dropped weapon tile in road color or other color or leave it plain or paint it later.



Step 2. Once the paint is dry (or if there is no paint to begin with), apply some Elmer's

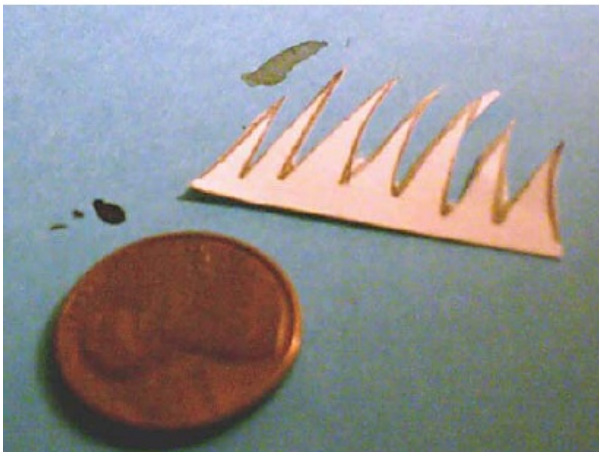
White Glue/PVA/Elmer's Wood Glue/Elmer's Gel to the dropped weapon tile. Apply the glue in a copious amount and be sure you get an "oil slick" sort of pattern. I usually drag or trowel an piece of toothpick through the glue to help move it around.



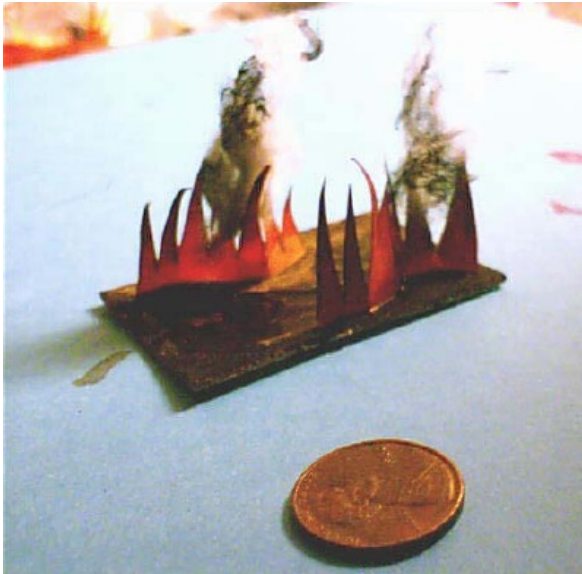
Step 3. Take some Black India Ink and carefully paint it onto the dried glue areas (might want to do with this with an old brush). Let this dry and you are finished!

### **FLAMING OIL SLICK**

Do all as for Oil Slick, only this time we are going to modify the end result.



Step 1. Take out some cardstock, plasticard, heavyweight paper, or another material of your choice. Draw a few zigzag lines on it that mimic flames and cut out two such pieces.



Step 2. With ink, color markers, or paint, color the pieces in red and yellows to create a flame impression. When dry, glue to the finished Oil Slick Tile in a wavy pattern. If you like, you can add a bit of smoke.

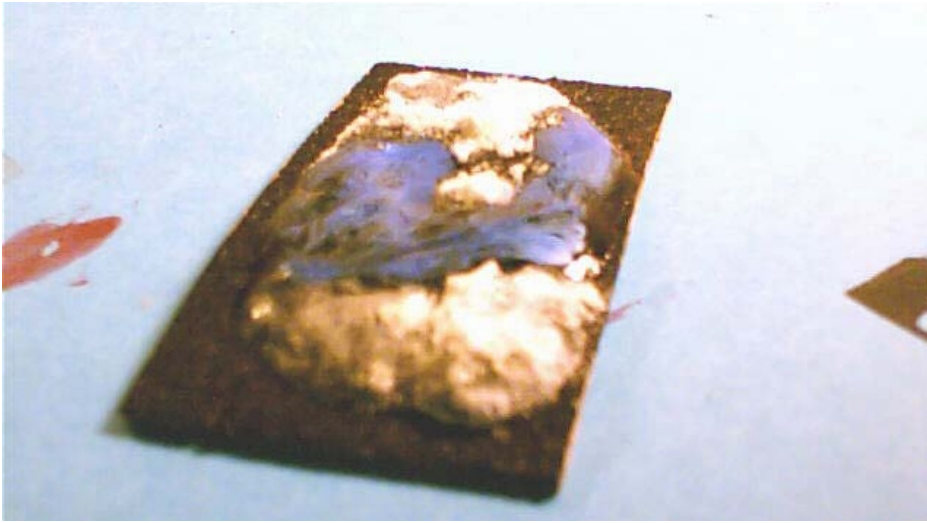
### **WEIRD LIQUIDS**

As for Oil Slick, but this time vary the color, texture, and look by adding different paint colors, sand, baking flour, etc. Some examples are below.



Option 1. *ACK! Industrial Green Gooey*

This was made using Elmer's Wood Glue and moss green paint. Looks pretty disgusting.



Option 2. *Ice In July?!*

This was made using Elmer's Glue Gel and some baking flour for snow. Get out the snow tires....



*The road was filled with dozens of sharp little tacks, the rig swerved to the right lane, then immediately back to the left. Wiping his brow, Toast wondered how he was going to get out of this one....*

### **SPIKES:**

**PORT ON VEHICLE:** A spike dropper would likely be modeled by a simple plate on the side or rear of the vehicle. The plate may open like a hatch, letting the allotment of spikes fall out or it might theoretically shove them out with compressed air. I usually model my spike droppers with a small square or rectangular plate on the rear of the vehicle.

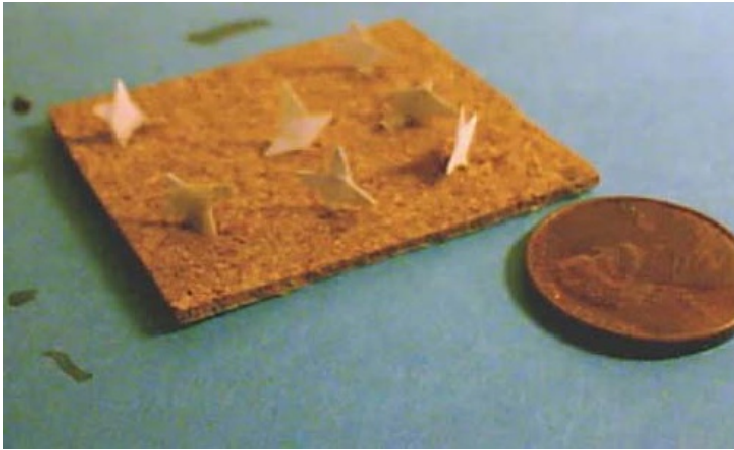
Spikes are pretty generic. They may be a specially balanced and manufactured or maybe your road warrior just uses a bunch of metal nails and tacks. However, they are effective at attacking your opponent's tires and can be useful while cheap at the same time. Until now, I had not yet run across something that worked as saying "Spikes!" to players at a table. The reason, primarily, is finding something shaped remotely like a pronged tack about 1/8" in size; almost too small to expect that shape. However, I think I may have found something that is easy to make and looks quite convincing as spikes on a road...Let's check it out

Step 1. Prepare a dropped weapons tile by painting it up like road (if you choose)

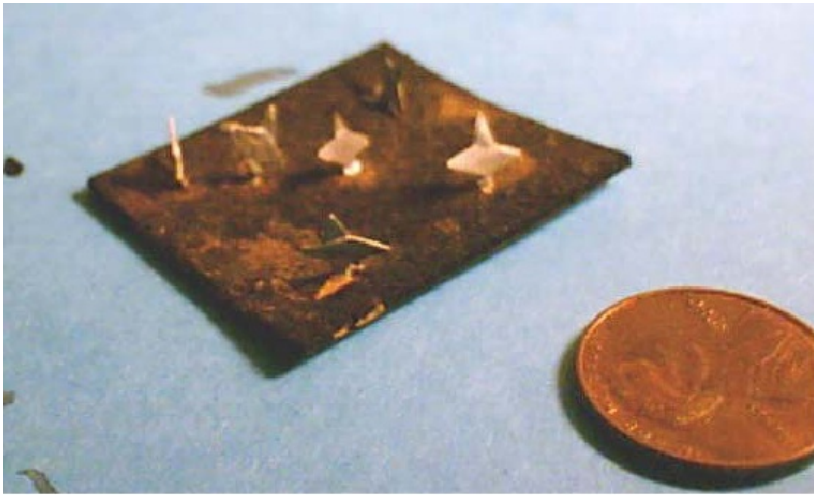


Step. 2. Take out the diamond-shape hole punch and punch out some cardstock. About twelve diamonds will do. Glue one diamond to another perpendicular so they create a cross shape. These will be your spikes.





Step 3. Glue the spikes to the dropped weapons tile with only one or two points of the spike touching the tile. Let them dry.



Step 4. Paint the spikes a shiny silver. Let it dry. You now have a tile of spikes ready for Joe Road Warrior to deploy! Alright!

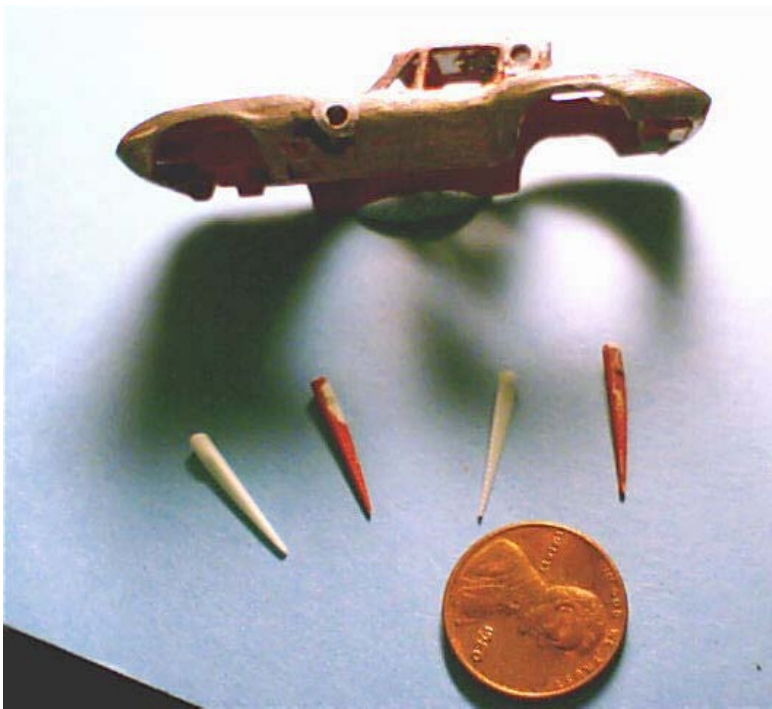
## **CHAPTER 4 RAMPLATES, RAM SPIKES, & BODY BLADES**

Sometimes regular weapons just cannot do the job. Or maybe your road wars tactics harbor an itch to just go smash into something. That is where ramplates and body blades come in. A ram is a good weapon for busting through that barricade on Highway 59 or letting that irritating dropped weapons car in front of you know who is who.

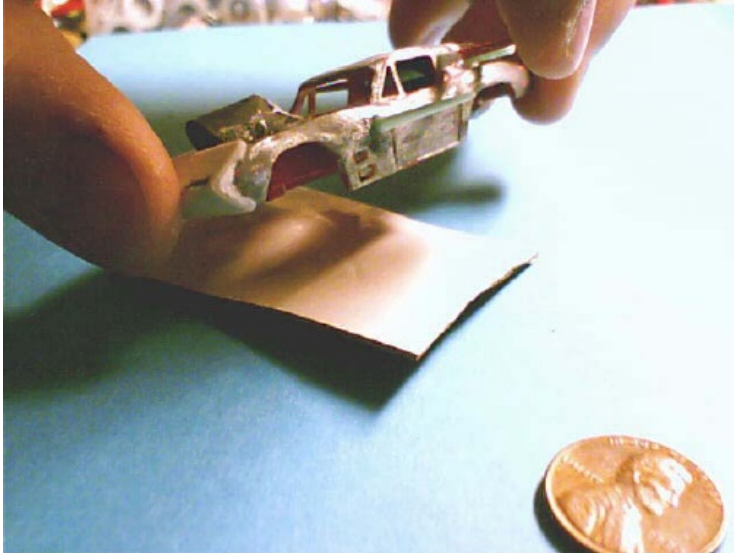
Body blades are just that; a large blade meant to chop large bits into small bits. Maybe you are surrounded by all those enemy infantry and just feel the need to cut them down to size...ewwww. A definite favorite weapon of those badland psychos. A ram spikes (also known as spears, ram spikes, teeth, etc.) is just a hardened body blade stuck on the front of the car so that when you do ram, you leave a calling card...ewwww. Anyway, if you are looking for a mondo bloodbath on those wasteland roads, you probably want to model it as simply as possible. Let's take a look.

### **BODY BLADES & RAM SPIKES**

This process is going to need your Dremel or drill tool. The reason is pretty simple. When mounting body blades, pikes, and spikes, you will probably need some holes in your vehicle to mount them into. Otherwise, you take a good chance of busting them off before you ever get through a typical game. This section also assumes you have removed all the paint and are ready to go to work on the vehicle.



Step 1. Take a look at your vehicle. Decide where you want your blades to go, whether or not you can cut/drill into the body at those points, and then mark those points with a marker or pen. A good drill size I have found is 5/64" or 3/32" drill bits as these will allow you to put some toothpicks in. Locate some more plastic toothpicks and cut off the blade ends or take out some that you have saved from making Pedestrian Mortars. Note the blades and the holes drilled into the side of our example Corvette Stingray Project.



Step 2. Be sure you have completed all other heavy body work before applying the blades. No sense in mounting them when you still have drilling or sanding to do. Once all the heavy work is done, take the blades and mount them into the holes. Apply some glue and let them dry.

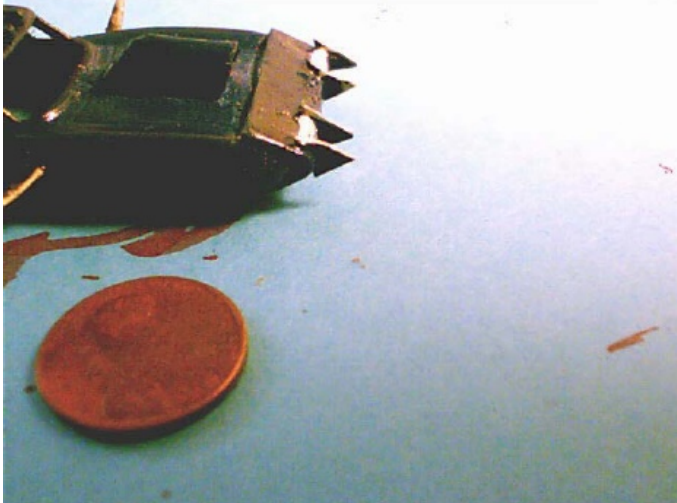


Step 3. That is pretty much it for the “vehicle side” blades. An alternate idea is to do the same thing, without the drilling, and just use card...speaking of card check out Step 4 to see some card in use.



Step 4. Maybe you want to add some ram spikes to the front though. How? I cut some small cardstock triangles like those used for the Big Rocket/Missile Of Destruction And More and cut out a bit of the backing to help them fit over the ramplate. When the glue dries, they will be nice and firm. You can then move on to painting.

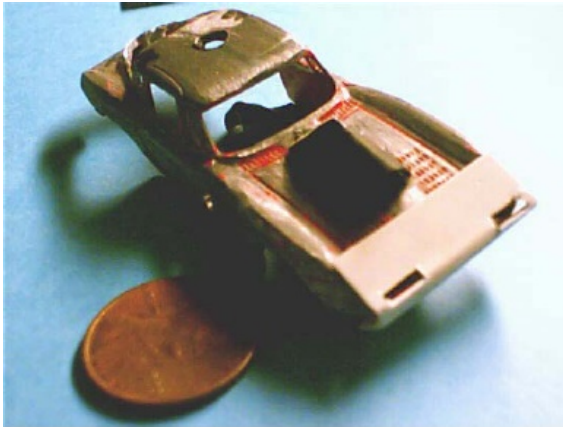
Example of mounted ram spikes to the Stingray Corvette conversion....



*“Oh man...” – Last reported words of Augie before being rammed by a Victory Motors™ Jihad....*

## **RAMPLATES**

Step 1. Take a look at your vehicle. Decide how you want the ramplate to look. Try out some different shapes, sizes, and details before you start permanently mounting. Keep in mind holes for headlights to show through, weapons to poke out, and that the driver probably would like to see where he is going....



Step 2. Take out plasticard, cardstock, or some other reasonably hard-wearing material. Cut it to proper height and width. Cut out any holes you might need (headlights, weapons, etc.) Test it on the car and see if you like it. If so, go ahead and glue it on. As you can see our Corvette Stingray Project is coming along nicely. We added the ramplate to show how your vehicle should generally look.





Step 3. Once cured, look for any gaps in the plate/body fixture and plug them up with some putty application. Let that putty dry. Once dry, sand down any off corners or derelict putty. You are ready for painting or other additions!

The completed Corvette Stingray using the ram and body blades....

