



Sabot Away!



Newsletter of the Austin Armor Builders Society

August 2017

A LEOPARD IN THE SNOW

By Rick Herrington

The paint scheme on an armored vehicle model is one of the most important factors in building a model for me. It can make your model “pop” or it can kill your model. The paint job draws the viewer’s eye to the build so that they can notice all the extra details like photoetched parts and scratchbuilt items you did on the kit.

My latest kit was a Leopard 2A7 in 1/35th by Meng. This tank is the latest in the German *Bundeswehr* stable and only a couple of units are equipped with them. Having done the three tone NATO camouflage several times previously, I wanted to do something different. I decided on a snow camouflage.

I couldn’t track down any photos of actual Leo 2A7s on maneuvers with snow camouflage. So based on the camouflage for Leo 2A5s and A6s, I determined it would be the black color in the three tone camouflage that would be replaced with the color white. The temporary white paint is not very

(Continued on page 4)



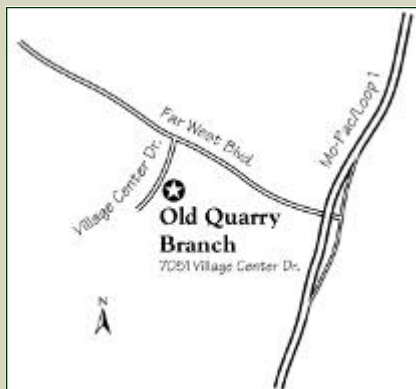
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Austin Armor Builders Society (AABS) meets at 7PM each month at the **Austin Public Library**. Our next meeting is on

August 2, 2017

Annual dues for full membership are USD **\$12** to be collected at each January meeting. Upon receipt of payment, a membership card will be issued. This card is valid for one year, and it entitles holder to discounts at various local hobby shops in the Central Texas and San Antonio areas.



Sabot Away! is the official newsletter of AABS and is published twelve times a year on/before each monthly meeting. Any inquiry on subscription issues or assistance on article contribution please contact editor Eric Choy via email aabsco@gmail.com.

The views and opinions expressed in this newsletter are those of the authors. They do not necessarily reflect the official policy or position of AABS.



CALENDAR OF EVENTS

- ◆ August 2 - AABS Club Meeting
- ◆ September 6 - AABS Club Meeting
- ◆ September 9 - SuperCon 2017, Bob Duncan Community Center, Arlington, TX
- ◆ September 16 - AMPS Centex Armor Expo 2017, Georgetown Community Center, Georgetown, TX
- ◆ October 4 - AABS Club Meeting
- ◆ October 14 - Capital Classic 2017, Travis County Expo Center, Austin, TX



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Upcoming Program Presentations and Newsletter Articles

Month	Program Presentation	Newsletter Article
January 2017	Worth Haggerton	John Talley
February	Russ Holm	Greg Beckman
March*	Bob Bethea	Eric Choy
April	Randy Bumgardner	Bob Bethea
May	Ian Candler	Ian Candler
June*	Dave Bourland	Andrew Bodin
July	Ted Andreas, Jr.	Ted Andreas, Jr.
August	Ted Paone	Rick Herrington
September*	AMPS Judging Review	Greg Beckman
October	Kit Auction	Kevin Hutchison
November	Aaron Smischney	Aaron Smischney
December*	Greg Beckman	John Talley
January 2018	Chris Chany	Chris Chany

Here is a list of members who are responsible for providing articles for the newsletter and program presentation at our monthly meetings.

Please note any member may contribute as many articles as he wants any time. The purpose of this schedule is to ensure we have at least one article in the newsletter each month.

Prompt submission of your article is much appreciated. The deadline is always **11:59PM on the last Wednesday of the previous month** (e.g. John Talley's article for January was due on the last Wednesday of December).

* Quarterly contest month



From the Turret

Summer seems to be a quiet time for AABS as vacations and other things keep our membership busy and out of town. Many thanks to **Ted Andreas, Jr.** for keeping us updated on work being done outside the club in his photo presentation last month. It's always good to keep up with the competition!

Reaching back 75 years for project inspiration yields us quite a few options this month. In the East, the Germans were pushing their way to Stalingrad. In Africa, Rommel was having his last go at reaching Egypt, and in France, the British/Canadians were left with a black eye from the Dieppe Raid. What most of us probably forget or ignore though is the Japanese use of tanks at both Milne Bay and Guadalcanal in August 1942.

At Milne Bay in New Guinea, the Japanese used Type 95 Ha-Go tanks to overrun a forward Australian position and continued pursuing with a river crossing assault by mounted infantry. Unfortunately, the attack failed as the tanks got bogged down in the mud around the airfield during the assault on the Australian defensive line.



A Japanese Type 95 Ha-Go abandoned at Milne Bay



A Japanese Type 97 Chi-Ha in the Guadalcanal Campaign

I'm not going to be able to make the August meeting, but I'm sure you will all have a great time with the rest of the team. I'll have to look forward to catching up with each of you next month.

John Talley
President



Detour to our Facebook page for updates!

<https://www.facebook.com/Austin-Armor-Builders-Society-191876957528149/>



(Continued from page 1)

durable and wears off easily, so the hairspray chipping technique would be useful in replicating the finish. The basic finish would be a three tone NATO camouflage. The hairspray would be sprayed over it and then an acrylic (Tamiya) white. The white could then be chipped to show wear.

I used Vallejo's acrylic NATO set to paint the basic finish and then oversprayed with a Testors Gloss Coat. It's important for the base colors to be durable to make sure they don't rub off during the chipping process.



I then set the model aside for 24 hours to let it dry thoroughly. If you use an enamel or lacquer based paint for your base colors, you can avoid the extra step of the gloss coat.

As the Leopard is a big tank, I painted the turret and the chassis separately. I coated each with two layers of **TRE**Semmé hairspray (it doesn't have to be this particular brand but I find this one the easiest to work with). I used Tamiya acrylic white to paint over the black portions of the camouflage.



After letting the white paint dry for five minutes or so, I soaked it with water. I used distilled water so any extra mineral stains from the water were not transferred to the finish. With a flat paint brush I then scrubbed the surface of the white paint to reveal the black color underneath. Be careful with this as depending on which acrylic you use to over paint the black, the paint may come off in large sheets or in small bits. I prefer Tamiya for the white as it tends to be more controllable in how it comes off the under color.

As these vehicles are only in the field for a short period of time, I went for a subtle chipping effect.



Most of the wear and tear on the temporary camouflage paint would be done by weather and the crew mounting and dismounting the vehicle. Keep this in mind when weathering your vehicle.

I later added tarps and camouflage nets to the model as you usually see them on modern Leopards in the field.

Rick





Special Third Armored Division Theme Award

*Charles D. (Don) McFetridge
Colonel, US Army (Ret.)*

The U.S. 3rd Armored Division will be holding its annual reunion in Austin this year. The reason I am writing to you all is that AMPS Centex Armor Expo 2017 (see page 9 for more details) will be just a few weeks before our reunion. I think there is an opportunity for collaboration between the 3rd AD folks and the Austin Armor Builders Society.

I am sponsoring a one-time only, special theme award. Any entry that is 3rd AD related is eligible. Since the Division was formed in

1942 and continued until 1992 with only a short interruption, any vehicle, figure, helicopter, etc. that was in the US inventory during that period would qualify. That means WWII, Cold War, and Operation Desert Storm inclusive. The only restriction is that the entry must have a visible connection – sleeve patch, bumper marking, or other identifying feature from the 3rd AD.

I will donate a cash prize of \$100, a distinctive plaque, AND invite the winner to attend the Division Grand Banquet Saturday evening as my personal guest. I would also request that the winning entry be available for viewing at the dinner.

I will defer to the judges at the show to select the winner as I know they are competent to do so.



Don



Supplying The Rockets

by Ted Paone

I'm not an electrical engineer, but I have played one for over 30 years in my career. So when asked by **Doug Cohen** to help light his shadow box diorama "Bombs Bursting in Air," I figured Google and I could help.

The diorama is based on a lesser known painting of Francis Scott Key watching the bombing of Fort McHenry through a window of the British ship rather than the one where he was standing on the gunwale.



We determined that there were three lighting requirements:

1. A flame sculpted into a candle in a lantern hanging from the ceiling.
2. General lighting in the cabin to illuminate the figures and the inside of the ship
3. Explosions
 - Flashing lighting behind the fort
 - Masked behind an opaque background only showing through the opening behind the fort
 - Three colors – Red, Orange, Yellow
 - Random flashing

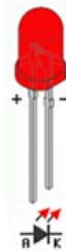
Shep Paine and **Ray Anderson**, masters of this genre, used fluorescent tubes and incandescent grain of wheat bulbs which required a lot of power. They generate heat and will eventually burn themselves out. Also color and control are limited. Nowadays we prefer inexpensive Light Emitting Diodes (LEDs) which come in many sizes, brightness and colors. They use little power and can be controlled to get the exact effect that you want.

In this article we will explore LED basics and some of the tricks used to light Doug's diorama.

LEDs

Light Emitting Diodes are electronic devices which convert electrical energy to photons (light). The diode part means that it can be controlled by the voltage difference between two legs of the LED, the anode and the cathode. When the anode is high and the cathode is low, the diode is forward biased, turned on and emits light. When the anode is low or the cathode is high, the diode is off.

Anode	Cathode	LED
High	Low	On
High	High	Off
Low	Low	Off
Low	High	Off



Choosing the Right LED

There are many variables when choosing the right LED: color, size and shape, and brightness.

The color of the LED is determined by the chemical makeup of the diode. Different chemical combinations create light from ultra-violet through the visible spectrum and on into infrared. The light color is mostly determined by the frequency of the photons emitted when the diode is forward biased. There are multi-color LEDs with multiple anodes (one for each color), color changing LEDs which flash the different colors sequentially, and LEDs with built in flashing. The coloring on single-color bulb is just for diffusing the light. High brightness and multi-color LEDs have clear bulbs.



In one vignette, I put a color changing LED in a clear recast head of the robot Gort to flash out his visor. For Doug's diorama, we use amber for the candle, warm white for the two general lighting, and red, orange, and amber for the flashes.

Besides color, LEDs come in different wattages and sizes which translate to brightness. The most useful wattage is 20 milliamps or 0.020A. Larger ones, up to 5 watts of power, are brighter but can have niche uses.



Useful LED sizes include 3mm and 5mm bulbs for general coverage and 1.8mm bulbs for spotlighting or highlighting specific sections. The rounded top of the bulb focuses the light and may be sanded flat to make a more diffused light. Surface mount or chip LEDs don't have the bulb or legs. They are much smaller, making them ideal for small light sources such as candles, lamps, or muzzle flashes. You want to find ones with leads already attached as they are really hard to solder.

I used a pico sized LED for the candle and 3mm size for the rest in the shadow box. They were all pre-wired with their current limiting resistors which saves a lot of time.



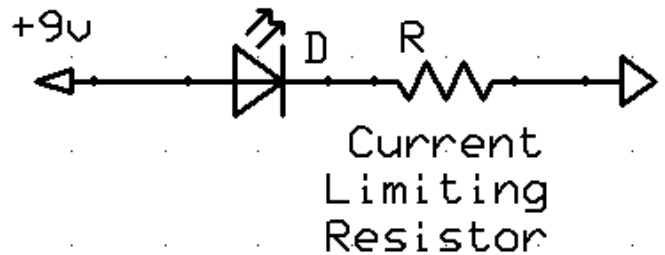
<http://www.modeltrainssoftware.com/led-sizes-explained.html>

Power Sources

You can power LEDs with 3 to 12 volts DC. I usually use 9 volts unless I am combining it with more complex electronics which requires 5.5 volts. Nine volts batteries are easy to find, and I can also get a regulated power supply (wall wart) for about \$8.

I calculate the amperage needed by adding up the number of LEDs and multiplying by 20 milliamps and then adding in the power used by any of the other active elements in the system. An one amp (1000 milliamp) wall wart will run 20 LEDs and plenty of circuitry. Be sure the power supply is regulated to deliver a constant voltage independent of the amps drawn. Batteries deliver the same steady voltage, but the amps drop as the battery drains. Avoid unregulated power supplies.

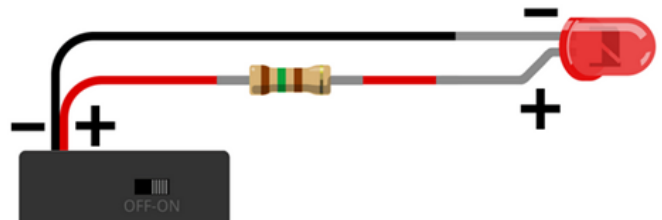
LEDs have polarity. They will not work when put in backwards. Be sure you connect the positive (+) wire to the anode and the negative (-) to the cathode.



You will also need a current limiting resistor in series as an LED cannot handle too many amps from the power source. A resistor of the proper size is necessary to keep the LED from destroying itself.

You can calculate the resistor size if you know the LED current, the supply voltage, and the voltage drop across the LED (determined by the color). There is a formula for that, but I don't know it (I told you, I'm not an electrical engineer). The general rule is:

$$\text{Ohm's law: } R = (V_{\text{supply}} - V_{\text{diode}}) / I_{\text{diode}}$$



I usually go to one of the LED calculators such as this one:

<http://www.hobby-hour.com/electronics/ledcalc.php>

This webpage even shows you the resistor color code to buy.

If you can't find a resistor of the proper size, get one of the next higher resistance. You can get 1/4 watt resistors, but you may end up having to buy them in bulk (100 resistors of the same size), so I often buy 1/2 watt resistors.

Brother, Do You See the Light?

Enough theory. Time to go to work! First I slipped some heat shrink tubing over the wires and legs of the connection to insulate it after the joint is soldered. Then I soldered one of the wires from the power



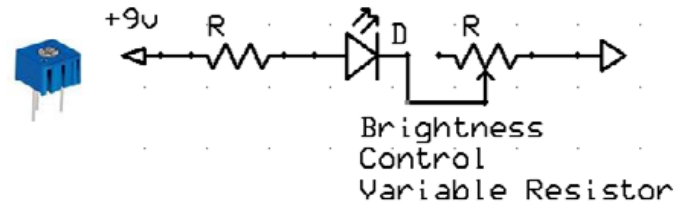
source to the resistor, the resistor to the appropriate leg or wire of the LED, and the other leg or wire back to the power source. It does not matter which leg of the LED is connected to the resistor, but it does matter which leg is connected to the positive and negative side of the power supply. During my first go I goofed and had to unsolder them and connect them up right! You idiot! No wonder you were never an electrical engineer.

Anode goes to the positive (+) side, and cathode goes to the minus (-) side. The actual color of the wires does not matter. You can have two black wires for all the electrons care. If you just twist the wires together and power it up, you can fix your mistakes easily.

Once I made sure the lights worked, I soldered the wires, resistor and the LEDs together.

Controlling the Brightness

Using the resistor we calculated, the LED will shine at its maximum brightness without destroying itself. Sometimes that is too bright. You can replace the resistor with one that has higher resistance or add another resistor in series with the existing one, and



the light will dim. If you need variability, you can buy trimmer resistors which can vary in resistance and put that in series with the existing resistor. Connect the center post and one of the end posts in the circuit. Turning the knob will dim the LED.

I hope I've enlightened you on LED basics. In the next installment (and at the August AABS meeting), I hope to shed some light on flashing the LEDs and other tricks to light up your life.

For more information on LED basics and purchasing LED supplies, check out the following websites of which I am a happy customer:

www.modeltrainsoftware.com

www.adafruit.com

Ted

(Editor: Photos below courtesy of Ian Candler)





AMPS CENTEX Armor Expo

September 16th, 2017

Georgetown Community Center



Show Theme "Odd Ball Armor"

Any unusual limited production (10 or less) AFV that has engaged in actual combat is eligible for the show theme award. e.g. Neubaufahrzeug, Char 2C, M3 Stuart with PaK40, T-34/57 "Exterminator," T26E4 "Super Pershing"



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NEW ON THE BLOCK



Takom's new 1/35th FV432 is making modern British AFV modelers very happy.



Another 1/35th kit of mobile rocket system from Trumpeter. The 2K11 "Krug" (SA-4 Ganef) is a medium ranged SAM on the same chassis as ZSU-23-4 Shilka. It saw combat briefly in the early days of the Soviet's invasion into Afghanistan.



Ah, more 1/35th Korean War figures from DEF.Model: US Tank Commander (left), USMC Anglico team (middle), and Chinese/North Korean corpses (right).

AMPS Boresight (Volume 25, Issue 4)

The latest issue of *Boresight* is out. Here is a quick look inside:

- ◆ **M106A2 Mortar Carrier** by John Tapsell.
- ◆ **A Procrastinator's Success** by Bob Bethea.
- ◆ **World Model Expo 2017 - An AMPS Perspective** by Chuck Aleshire with photos by Ian Candler and Eric Choy.
- ◆ **The Soviet 9K52 "Luna-M" Heavy Battlefield Rocket System** by Cookie Sewell.





About Us

The Austin Armor Builders Society (AABS) started in 1999 when Don Jones, a member of the local IPMS chapter, decided "what a good idea to get out two nights a month, and on at least one night talk tanks."



At each monthly meeting, we talk tanks, swap kits, and share our building techniques and tricks. We also hold regular in-house model contests and organize out-of-town field trips to museums and modeling events. Every odd-numbered year AABS hosts the biggest scale armor modeling show in Texas that attracts some of the best armor modelers in the Lone Star as well as neighboring states.

AABS is the only scale model club in Central Texas devoted solely to armor modeling. We don't build planes because they are just plain! Our passion is armored fighting vehicles and military figures. Subject of our interest ranges from WWI, WWII, Korea, Vietnam, Middle East, to the most recent Gulf War Conflicts.

Since inception AABS is a local chapter of Armor Modeling and Preservation Society (AMPS), a national organization dedicated to the promotion of scale modeling and armored vehicle preservation.

To find out more about AABS, please visit our website or pick up a club flyer at your local hobby shop.

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New AABS website coming soon...

Bob Bethea's fantastic 1/35th US Army Bulldozer is featured in the current issue of AMPS' Boresight. Stay tuned next month for his article in our newsletter.

