

*WELCOME* to the



*SNOT* PANEL

aka Session 19!

Wik:

Derek Schin (dschin@mcn.net)

Frank Filz, PNLTC (ffilz@mindspring.com)

Bill Ward, BayLUG/BayLTC (bill@wards.net)

ALzo wik: *Mark Benz, BayLUG/BayLTC* (markdbenz@yahoo.com)

As *YOUR Pit Boss*/Moderator



# Abstract

Traditionally, most LEGO® constructions consist of/use the orientation of the inter-locking cylinders atop LEGO elements in the (standard) positive vertical direction (UP). The Panel's intent is to describe some alternative ways, and reasons to use LEGO elements in non-standard orientations to achieve desired results. However, the presentation does provide 150% of your RDA of bad puns and mucus "jokes", etc. with about one per slide... This is not a Mecha or Technic-specific how-to presentation. It is generic, more geared toward using SNOT in town, train, and similar-theme-uses. The Moderator does not profess to be the final authority or singular expert on the subjects or techniques discussed.

## About the MODerator:

- Thanks to his mom, AFOL Mark Benz has his and his brother's bricks & 50x50 baseplates from the mid-60's.
- Dark Ages ~1976-1993. Son, Ross born 1990. Daughter, Kristen born 1998.
- Co-Founder, member of BayLUG 1998, and BayLTC 2000.
- First significant, post dark ages SNOT MOC: Spring '99. 4-4-0 Steam Engine, seen on slide 14.
- Build environment: >200,000 total pieces; Clear plastic shoeboxes, nut/bolt organizers, Xerox-paper boxes for sets. Housed in dedicated portion of guest room.

**NOTICE:** All pictures used in this presentation are copyright of their respective owners. The presenter has tried to credit each picture where the builder or photographer is known. Unlabeled pics like by Mark Benz.



S tuds

N ot

O n

T op

*OR*

How *DID* they DO THAT? it'S NOT what you think...

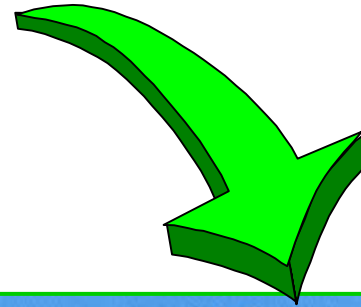


# SN ~~H~~OT Topics

- Background →
- Foreground →
- More Foreground →
- Underground →
- Aboveground →
- Playground →
- All Around →
- SNOT's a Part of Life →
- Conclusion →
- *Running* SNOT History
- Spot the SNOT!
- What and Why (Bring tissues, etc.)
- How to use it! (and wipe it up!)
- Parts and Geometry
- A SNOT Use
- Real SNOT Uses!
- SNOT Photos & Examples!
- Let's get SNOTted!

# SNOT Background

- 99 & 44/100% of LEGO® built “studs up” (Benz’s Lego Room Poll, ‘03)
- Most LEGO sets were/are all “studs up” except:
  - Newer Trains: Santa Fe Diesel nose, Streamline cars, Tanker, etc.
  - Most 4-wide vehicle headlights, bumpers, etc.
  - Technic, Car windshield frames, etc.
- SNOT use is clearly **increasing!**
- **BUT, SNOT’ sNOT new...**



All-SNOT Samsonite Airplane, Replica c. ~1972, by Mark & Dean Benz



1<sup>st</sup> Headlight Brick 1980; #1572, Super Tow Truck c. 1986

Today, SNOT is *OUT of the BOX...*

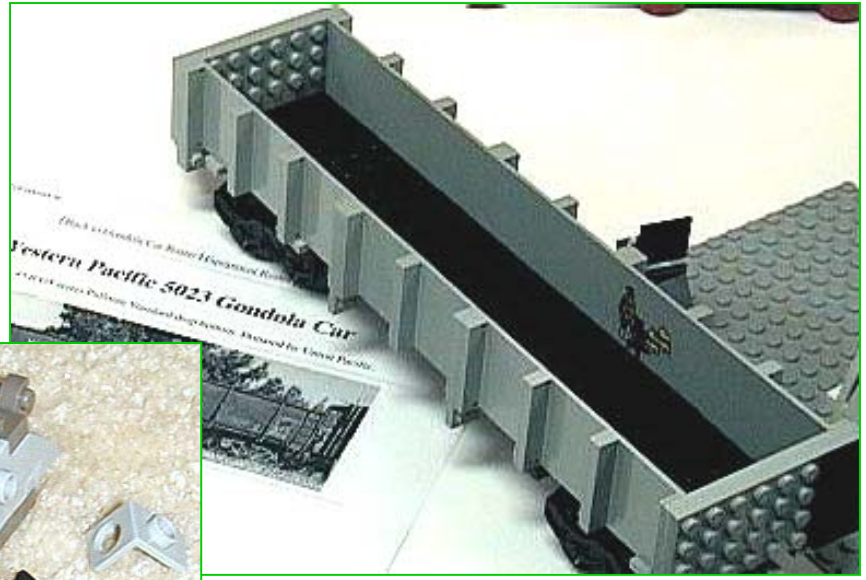
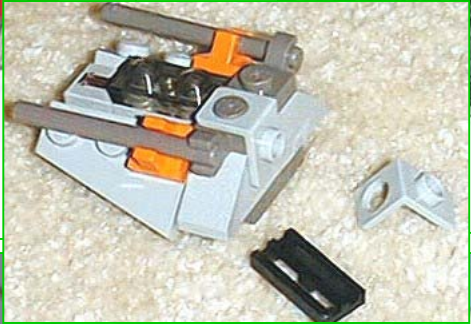
... and on *YOUR Hand!* **YUCK!** (or at least in the bag in your hand...)

# Can U...Spot the SNOT?



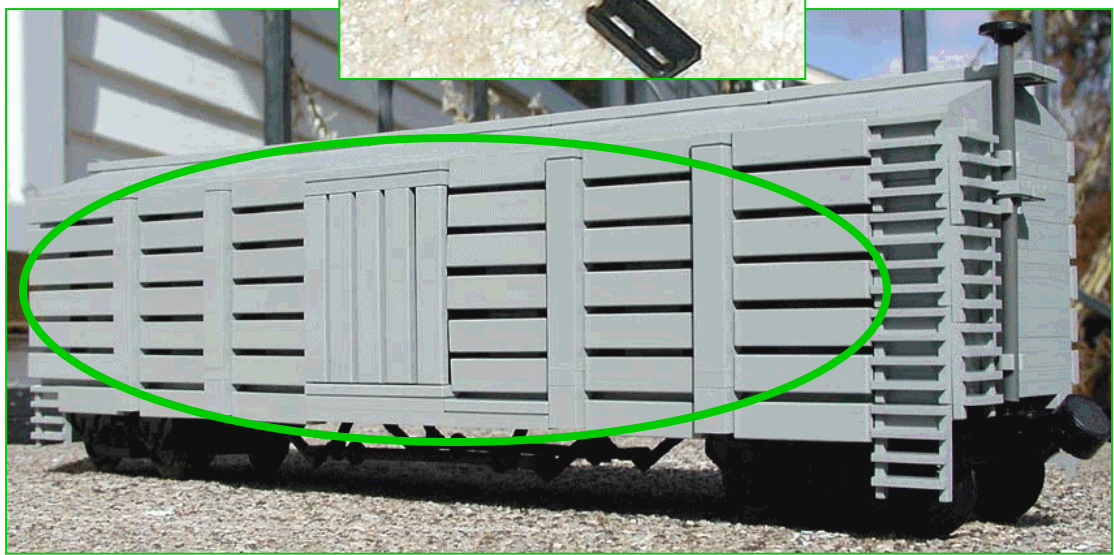
LEGO 10020, c. 2001

LEGO 4486 c. 2003!



8-wide SNOT Gondola by Mark Benz

8-wide Stock Car-2 by John Neal





# SNOT What and Why



- What: LEGO used in non-vertical “studs up” orientation
  - Also 3rd AFOL Acronym based on body function/product...
- Why Use SNOT? Lego offers more than 1000 elements!
  - LEGO is digital/pixelated medium, with few smooth curves, and often...
  - No equivalent shape/color/motion/etc. available in SOT
  - Cannot achieve **CRITICAL GOALS** using “traditional” techniques...
  - Dream/Build “Outside the Box”, or just to show Larry or John you could!

- **Critical Goals?** Like What? Are YOU Technic builder or not?

*The goal in non-Technic design is to fill in gaps as well as possible while adding lots of detail, while using parts in a different manner than they are normally used. In Technic building, parts used on their sides or upside down do not generally fill the same function...they either outline a shape or orient another mechanical element in the right direction. --Bram Lambrecht*

- Prototypes: more-like-it. i.e.. Steam engine boilers, “curved” surfaces, etc.
- More outlandish: Like Mecha...Any SOT at all? Go figure...
- Finish / texture: smoother, bumpier, more accurate, etc. Depends on use



# More SNOT Foreground



- SNOT Strengths:
  - **VERY Flexible**
  - Dream it, Build it... *Etc...*
  - “Niche Technique” Essential to reach specific objectives!
- SNOT Weaknesses
  - **VERY Flexible**, as in *CAN BE WEAK*, at transitions/joints
  - May get complicated, hard to “line up”; Can use more parts,
  - Non-traditional, left-brain thinking sometimes needed...
  - More rebuilds? 2nd or N-th try is usually better than first...
- **WORTH IT...** ‘Cause it can look *REALLY COOL!*
- **With LEGO, Appearance IS Reality...**



# SNOT UnderGround – HOW!

- START: Think! **OUTSIDE** the ~~Box~~ Brick !
- Pick a Direction, *Changes allowed!*
  - Start sideways or other direction (**Uhhh, like..down?**)
  - Start studs-up and change back and forth and back and fifth
- Use regular elements...or
- Use Technic elements, then try to hide the holes...

Or...

- Use LDRAW! **No, Not really...**
- BUT First ... a little SNOT Part Geometry...

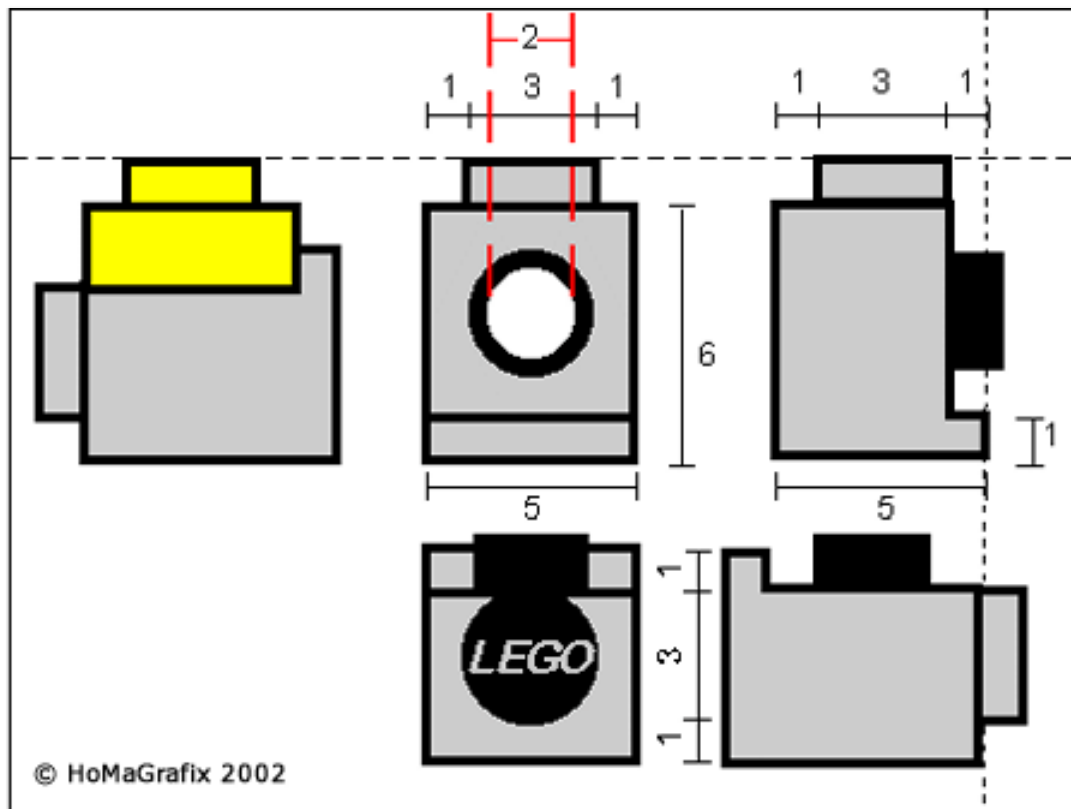
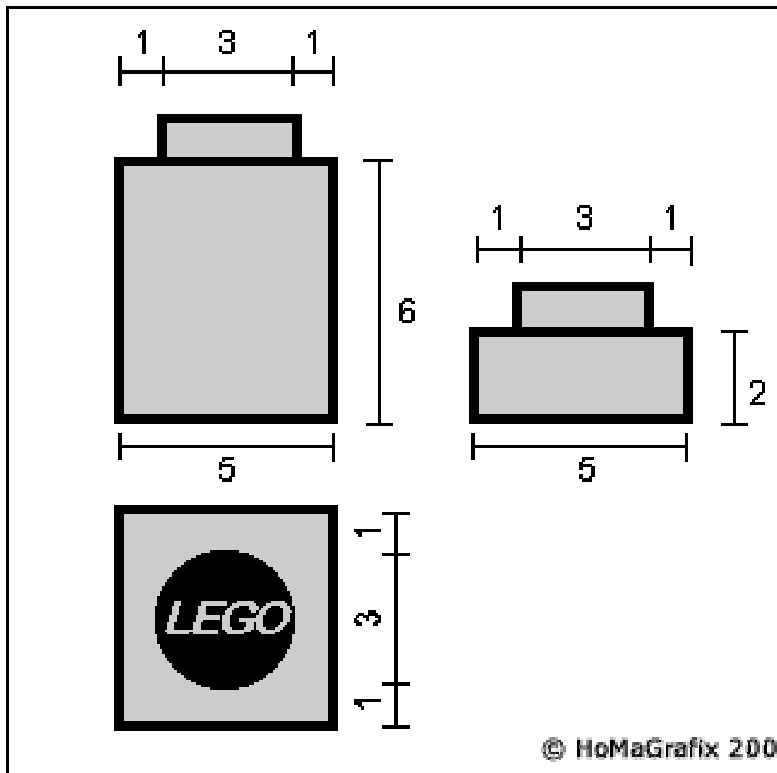


# Sample SNOT Part Geometry

Think 5 x 6... and/or 6 x 5! 'cause 5 high = 6 wide!

Da Basic Brick...

...and Headlights



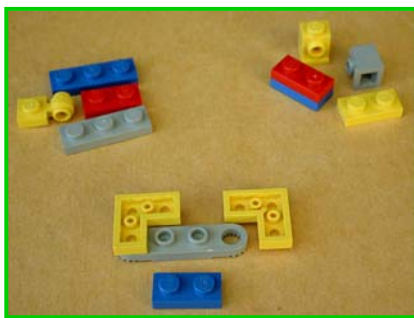
Graphics Copyright: Holger Matthes, Germany

[http://www.holgermatthes.de/bricks\\_us/index.htm](http://www.holgermatthes.de/bricks_us/index.htm)?[http://www.holgermatthes.de/bricks\\_us/offset.htm](http://www.holgermatthes.de/bricks_us/offset.htm)

# Common SNOT Parts

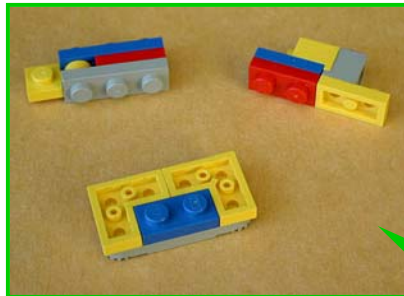
- Upside Down...

As  
this  
heap...

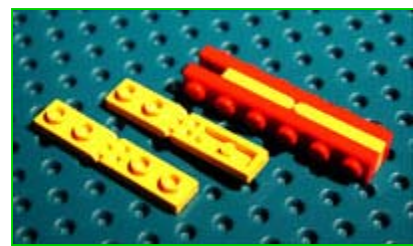


...Magically  
Becomes...

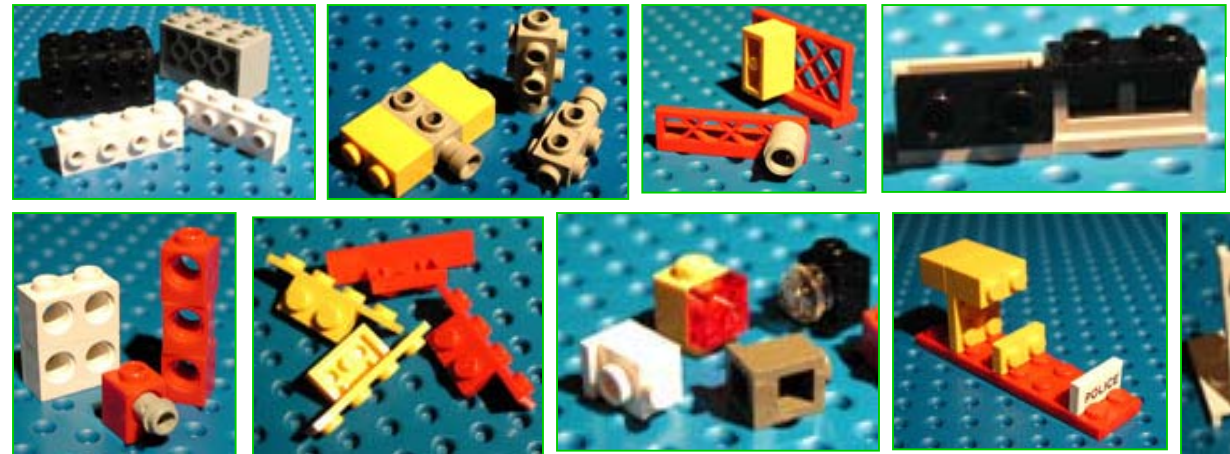
Pics by: Bram Lambrecht



or...



- And *SIDEWAYS!!!!*



**NEW!**

*StarWars Mini SNOT Angle*

All Pics by: Holger Matthes, Germany

**DISCLAIMER:** These are but a FEW examples, and are not necessarily the ONLY ways to build using SNOT techniques, nor does the author profess to know all of the ways. Users are encouraged to MAKE UP THEIR OWN!



# SNOT Uses



Like...

*... At Conferences!*





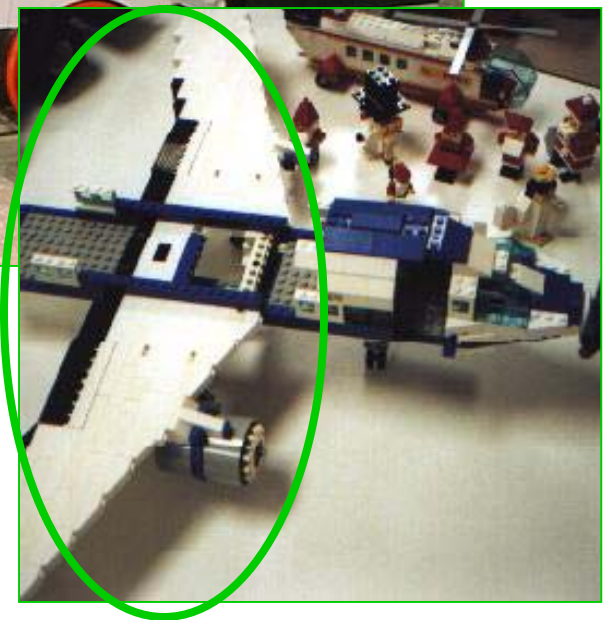
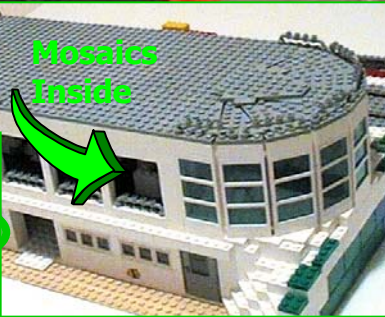
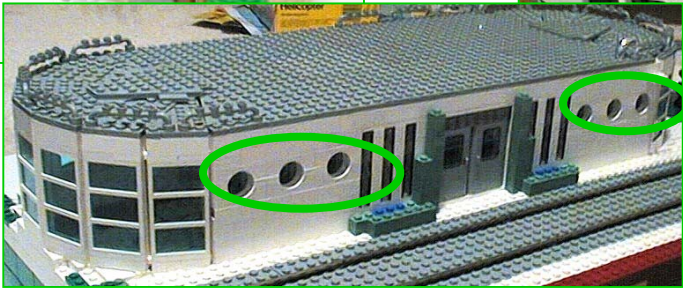
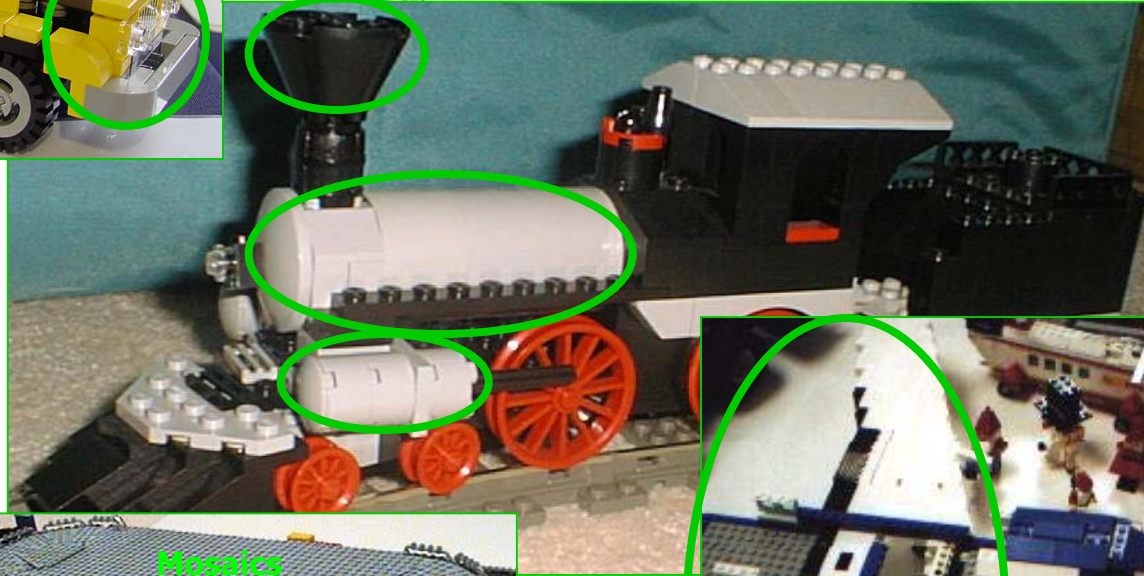
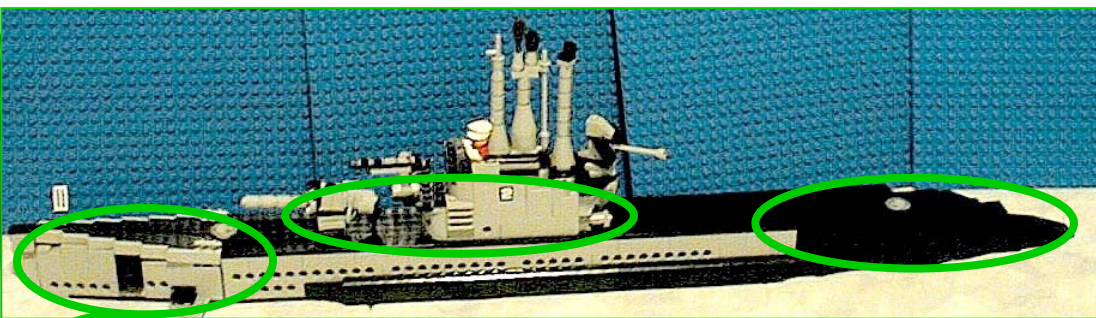
# Some *REAL* SNOT Uses...



- Train Cars
- Space Ships
- Other Vehicles (like buses, submarines, planes, cars etc...)
- Town Buildings
- Castles
- Other Buildings
  
- Other *ANYTHING!!*
  
- Did I mention 8-Wide Trains?



# Some Benz' SNOT Creations



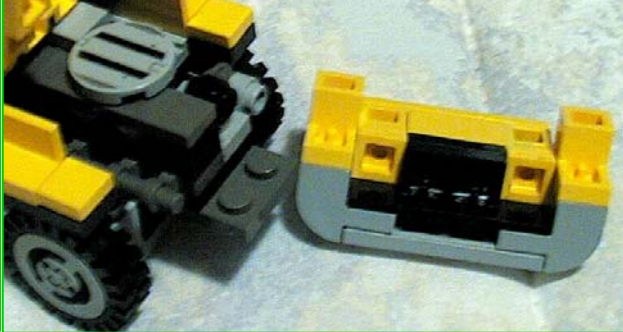


# GMC School Bus

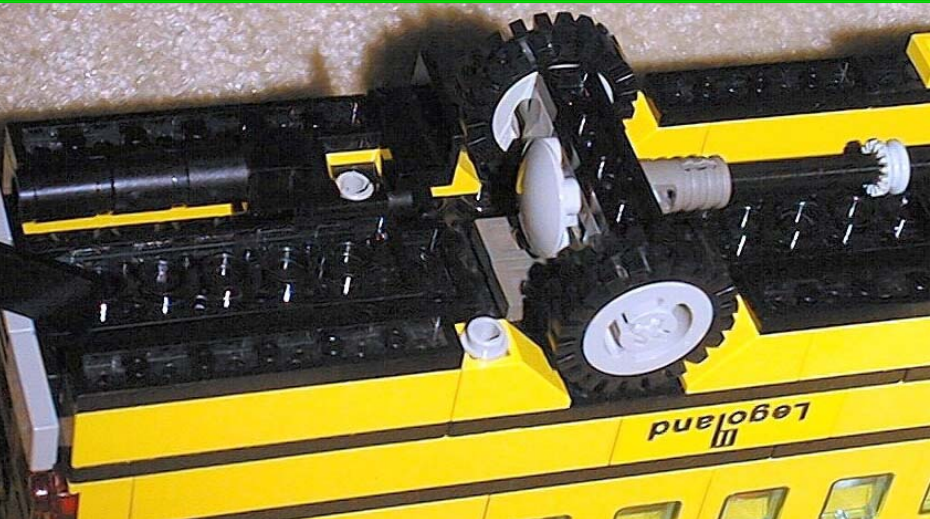


## After 1992 GMC - Blue Bird CV200

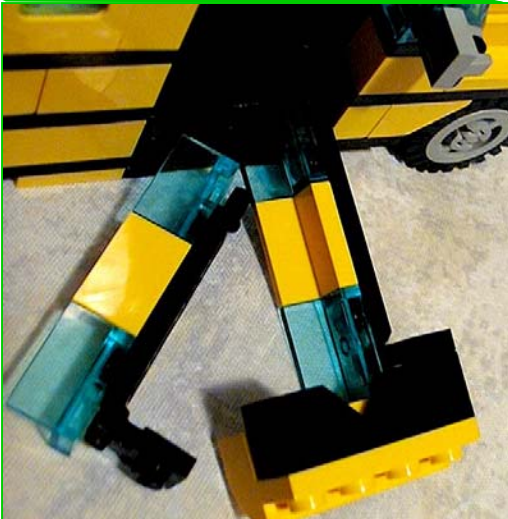
- 6 x ~30 compressed model w/ opening hood & engine
- SNOT front, doors, drive train
- Front axle steers, many other details



**Front End/Bumper:**  
Simple bracket



**Differential:** 2x2 Boat pad on back of 1x2 1/2 stud offset tile  
**Mud Flaps:** Inv. Slope w/ Technic pin, 1x2 panel  
**Exhaust pipe:** 1x1 cylinders, 1x1 technic beam, 1x1-1/3 curved top

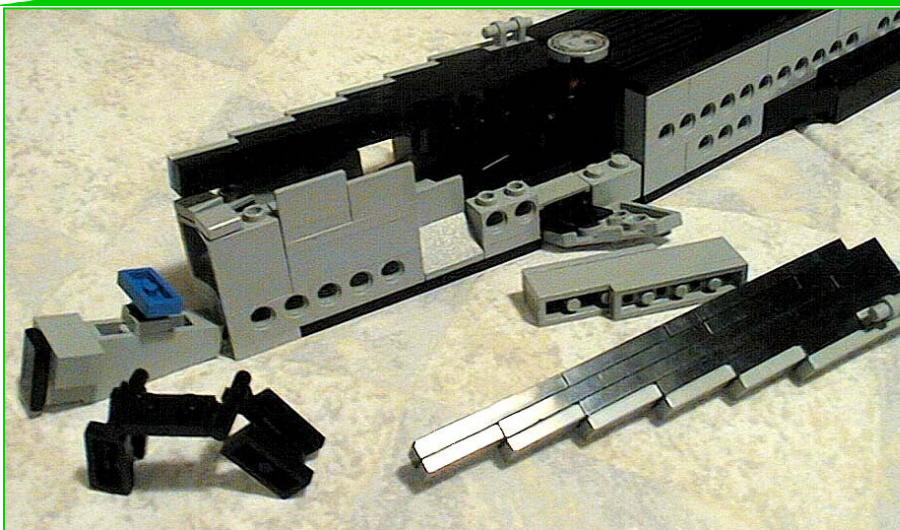
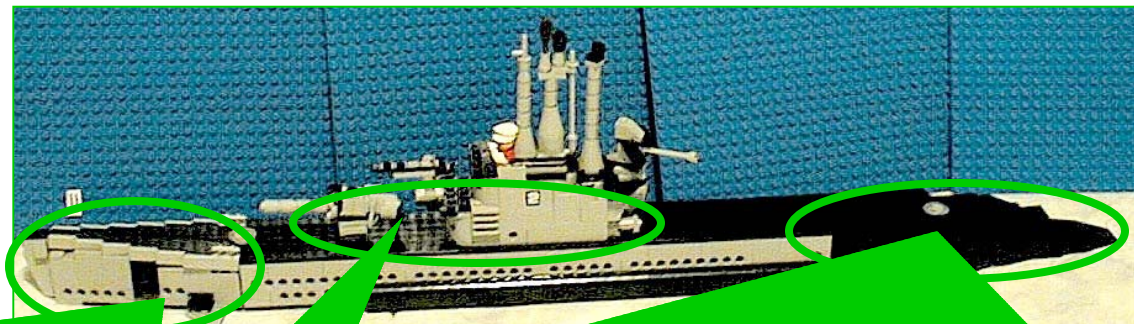


**Doors:** 1x4 Mod plate  
wheel holder/ axle, 1x1  
plate w/ clip, 1x2 panels  
Patent Applied For... {8^D  
*NOTE:* 6 Wide = 5 Hi used!

# USS Pampanito (SS-383)

## Balao Class Fleet Submarine, 1944

- 8 x ~80-stud waterline model (*to short*)
- See-thru bow, SNOT bow & stern
- ½ Stud-offset Conning Tower
- About 600 parts, several HTF
- 1<sup>st</sup> BayLTC 2003 SF Waterfront model



**Bow:** 1x2 invert tall slope above plate hinge w/ 1x1s & ½ stud offset tile between tapering 2x2 panels.

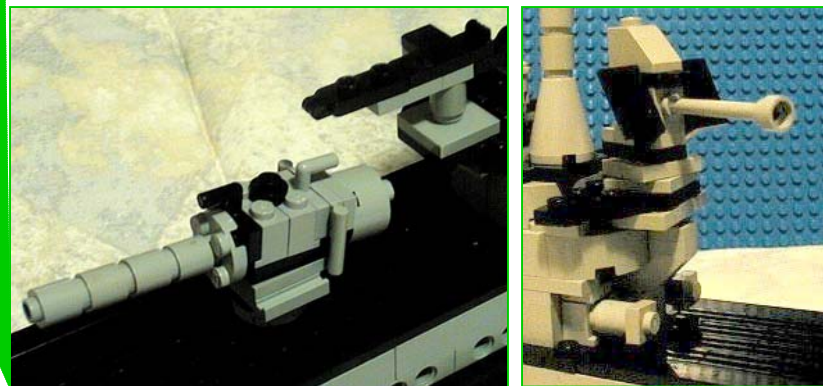
**Fo'castle:** Sloping, tapered foredeck: Cantilevered back-2-back plates, on plate hinges w/2- ½ stud offsets on side of technic beams

**Bowplanes:** 2@1x2 brick hinges, inverted 2x2 hinge plate

**Anchors:** 1x2 mod. plate, robot arms, tiles & plates



**Stern:** All upside-down, 6x6 & 4x6 boat bows, Inv. hinges



**Armament:** Headlight bricks, studs all-sides, 1x2 panels

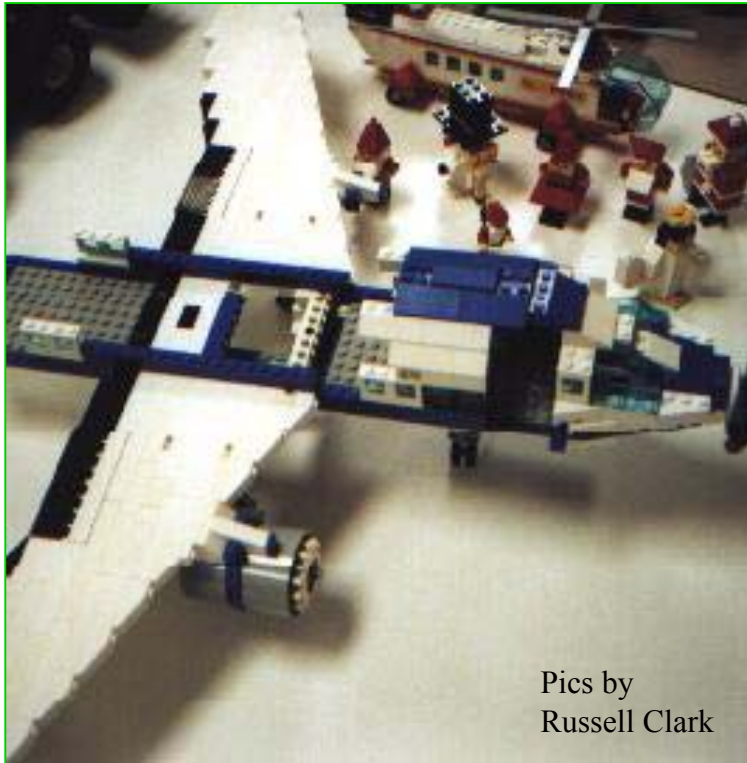
**Ammo Containers:** (Conning tower, aft) Headlight bricks



# SNOT Airplanes

## Basic Samsonite Brick Airplane (Replica) c. ~1972

- Rebuilt from memory, ~30 years ago w/ brother
- 100% SNOT, no alternatives available then
- 6 x 30 fuselage, 8-wide had red bomb bay doors
- ~44-stud wingspan, mostly 1x8 No-pin bricks
- Later added retractable “Miniwheel” Landing gear
- Could be greatly improved w/ today’s hinges, etc.



Pics by  
Russell Clark

## Jumbo Jet Wing, 2000

- ~80 x 25 stud swept wing, flaps on backward technic pins, winglets
- On 12 x ~96 stud fuselage, 2 class, 2 1/2 story Jumbo Jet
- Retractable, sprung, Quad-wheel main, & steerable nose gear
- SNOT “High-bypass” MasterBuilder-wheel engines
- Technic W/F interface, Project abandoned '02; revive it??





# Some SNOT on/in Buildings



## Steam-Era Water Tower

- Cyl & 1x2 log, 16 Dia. Tank

## SF Maritime Museum

- ~22 x 64 Stud, 4 story compressed model
- Ship-shaped, “streamline-moderne” WPA structure
- 2<sup>nd</sup> BayLTC 2003 SF Waterfront model



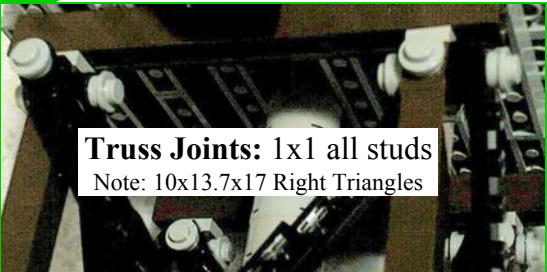
Roof: PseudoSNOT, ...But still COOL!



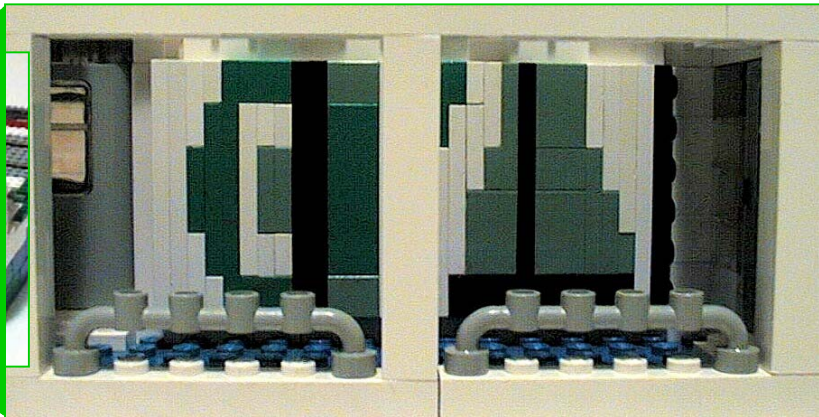
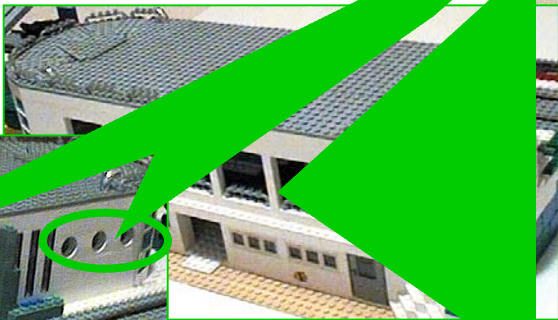
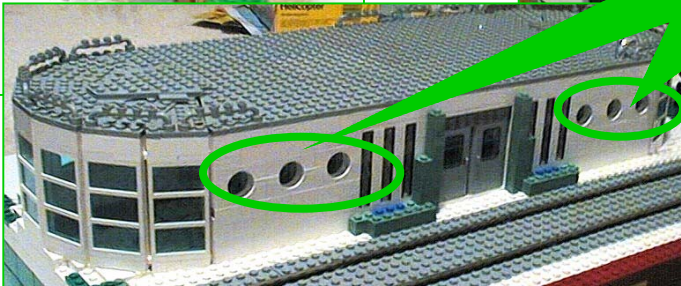
Spout: Headlights, 1x2 Hinge  
Gauge: Lightsabre w/ bubble



Portholes: 2x wall, 1x4 arch on 1x2 panel, trans-panel



Truss Joints: 1x1 all studs  
Note: 10x13.7x17 Right Triangles



Mosaics: 5x6 mixed plate & brick to fit 6x5 holes

NOTE: Originals by S Johnson: <http://www.planetware.com/photos/US/CASF917.HTM>

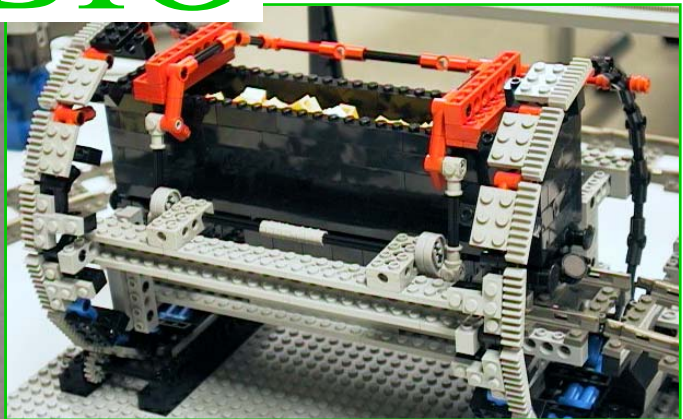


# Other *NEAT SNOT* Online

*Buildings and Space and ...*

# BIG

TransAmerica Pyramid by Kim Toll



Mindstorms-controlled Rotary Hopper Car Dumper by David Wegmuller

AcesHigh Space Engine By Mark Sandlin



Hoplab by Chris Giddens



B & O 2-6-2 by Ben Fleskes  
Lead truck: down, mid & front fwd, top: studs up



**SMALL**

Picnic Table By ?? @ BW 2002



Red & Black House Balcony By Esben Kolin



SNOT's a *PART* of Life!



TRY IT!

- No Need for *All SNOT, All THE TIME* ...
- Try it in small doses at first...

Here's your NEXT DOSE!

Panelist Show and Tell...

Please *CONTAIN* SNOT questions 'till the end.



# Panelist Presos Here

- Derek Schin
- Frank Filz
- Bill Ward



# Discussion, Questions & *Maybe* Answers

Thanks to Panelists and Audience.

- Derek Schin
- Frank Filz
- Bill Ward
- Mark Benz



# Some SNOT Resources & Websites



Among Others:

Clubs:

BayLUG/BayLTC: <http://www.baylug.org/>

PNLTC: <http://www.pnltc.org/>

SNOT Paradise = HoMa's (German) Pages, also good treatise on Lego Geometry

<http://www.home.fh-karlsruhe.de/~maho0013/bricks/snot.htm>

*Translate with <http://babelfish.altavista.com/tr>*

Bram Lambrecht: <http://lego.bl.design.org/>

Bricks: <http://www.bricklink.com/>

And of course:

~~<http://www.KLEENEX.com/home.htm>~~

<http://www.lego.com>