

# Steel Loads Part 1

## Plate Steel and I-Beam loads

By  
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# Today's Agenda

- Discussion of different steel loads and the cars used for them
- Restraining of steel loads
- Modeling a 60' flatcar with a plate steel load
- Modeling a 60' bulkhead flatcar with a I-beam load
- Questions and Answers
- Pass out clinic handouts (Part 1A is 9 pages – Part 1B is 10 Pages)

# I-Beams on a Bulkhead Flatcar



# I-Beams on a Bulkhead Flatcar



# I-Beams in a Gondola



# Rebar Load



# Rebar Load on a Bulkhead Flatcar



# Plate Steel Load on a Flatcar



# Plate Steel Load on a modified Bulkhead Flatcar



# Plate Steel Load



# Very large I-Beam on an 89' Flatcar



# Covered Coil Steel Car



# Gondola with coil steel load



## Required Items for 60 foot flatcar

- Evergreen .030 Styrene #9030
- Evergreen .010, .020, .040 Assortment Styrene #9008
- RustAll
- Model Master Gunship Grey #1923 (spray)
- Model Master Gunship Grey #1723 (brush on)
- Model Master Dark Slate Grey #2056
- Testors Brown #1240 (spray)
- Testors Dull Coat #1160 (spray)
- Testors Rust #1185 (brush on)
- Testors Wood #1141 (brush on)
- Testors Flat Tan #1167 (brush on)
- Testors Cream #1116 (brush on)

## Required Items (continued)

- Testors Red #1103 (brush on)
- Micro Scale #70211 N Scale Graffiti
- Polly Scale TTX Yellow #F404067 (brush on)
- Model master #2015 Flat Clear Finish (brush on)
- A-Line #29000 Style "A" Stirrup Steps
- Detail Associates #2202 17" Drop Grab Irons
- Weathering Chalks
- Athearn 60 foot Flatcar #92694
- Kadee #5 Couplers (optional)
- Northeastern Scale Lumber #3030, HO 4 X 4
- Walthers Goo

## Required Items (continued)

- Super Glue
- Pactra Trim Tape, Black
- .015 Piano wire
- Tenax-7R

# Required Tools

- X-Acto knife blades, #11, and #17
- Pin Vise
- #80, #77, and #76 drill bits (several of each)
- NSW Chopper
- Touch-N-Flow glue applicator
- Exact Socket Tool
- NMRA HO Scale gauge
- Postal Scales
- Kadee coupler height gauge
- Small file set
- HO Scale ruler

## Required Tools (continued)

- Hair Dryer
- Razor saw

# Painting the trucks and wheels.



William E. Jameson, 2007

Remove cast on grab irons and stirrups with a #17 X-Acto blade. Drill # 80 holes for grab irons and drill #76 holes for stirrups



Cut the ends of boards to give them a prototypical look



Distress the deck with razor saw. Use several of the paint colors to age the deck. I gave the deck a coat of RustAll after I had “aged” the deck.



Cut some of the board ends to look like they have been broken



Score several boards on the center line of the car  
Paint one half of the board them so they looks like  
they have been replaced



Use the wood and cream paints to go over the some of the distressed scratches in the deck to bring them out and to look like fresh scratches



# Finished painted deck



Cut steel plates, 2 each 43' and 10 each 35'



Build the load up



Mark the center line on the top of the load



# Tape dunnage to flatcar



# Tape load to flatcar



Drill a #77 hole in the clamps for the .015 “clamp bolt”



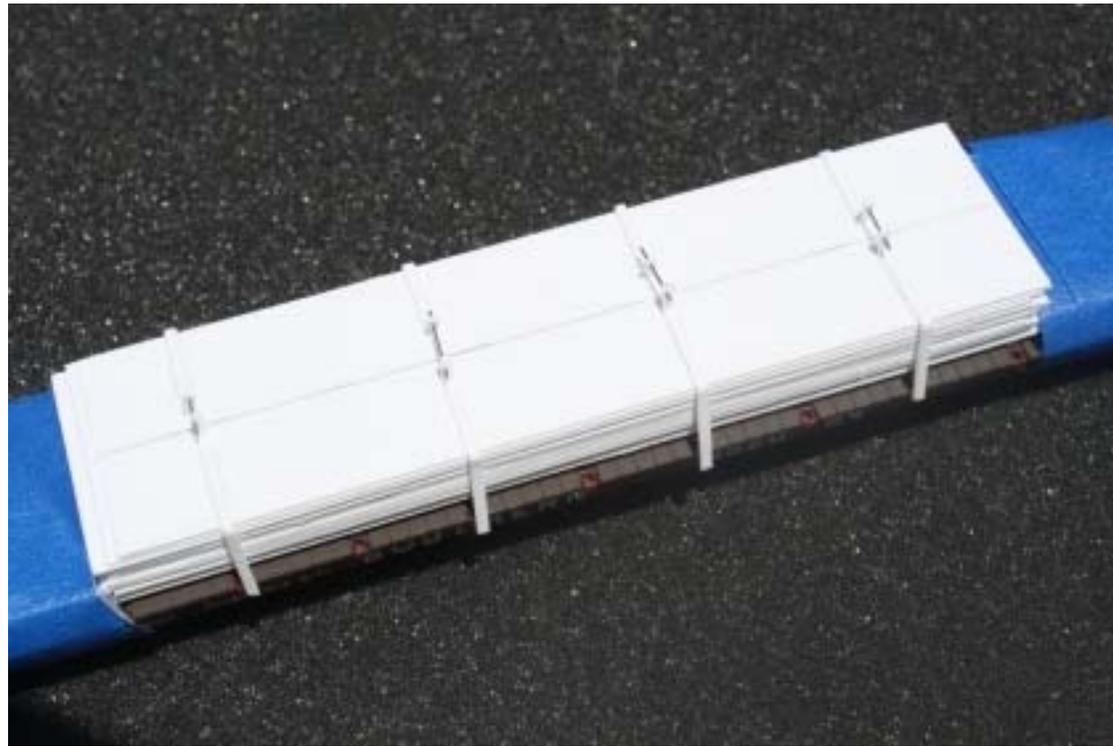
Cut clamps from .020 plastic, .045 wide. Bend the clamps using a hair dryer and needle nose pliers



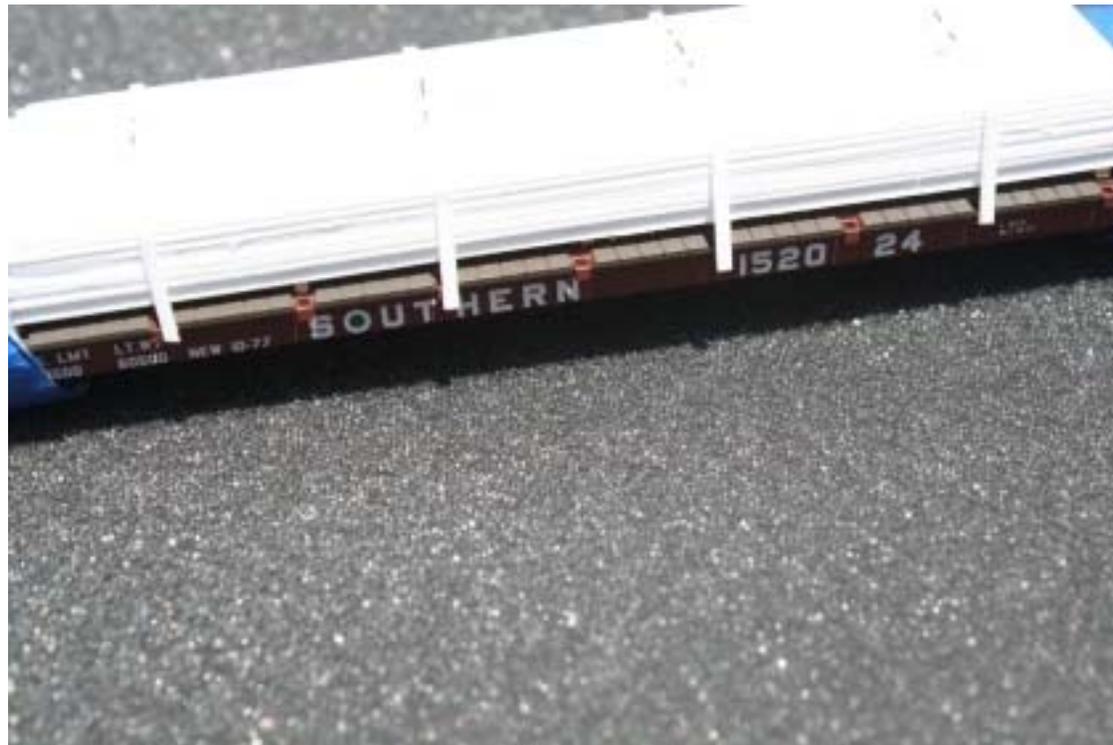
Bend the clamps using a hair dryer and  
needle nose pliers



# Glue clamps to load



Trim clamps at bottom of stake pocket



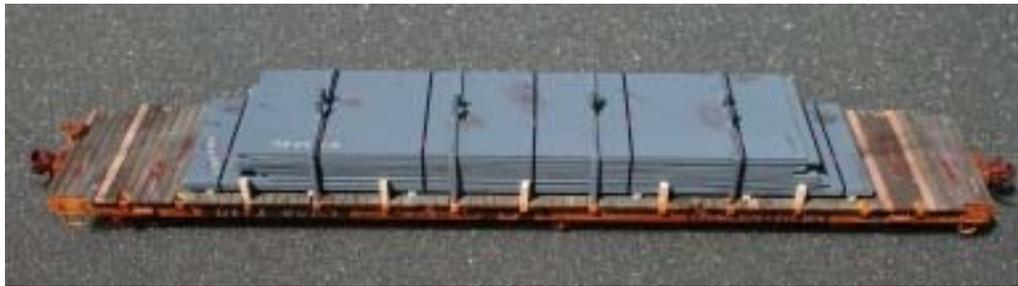
## Underside detail of steel load



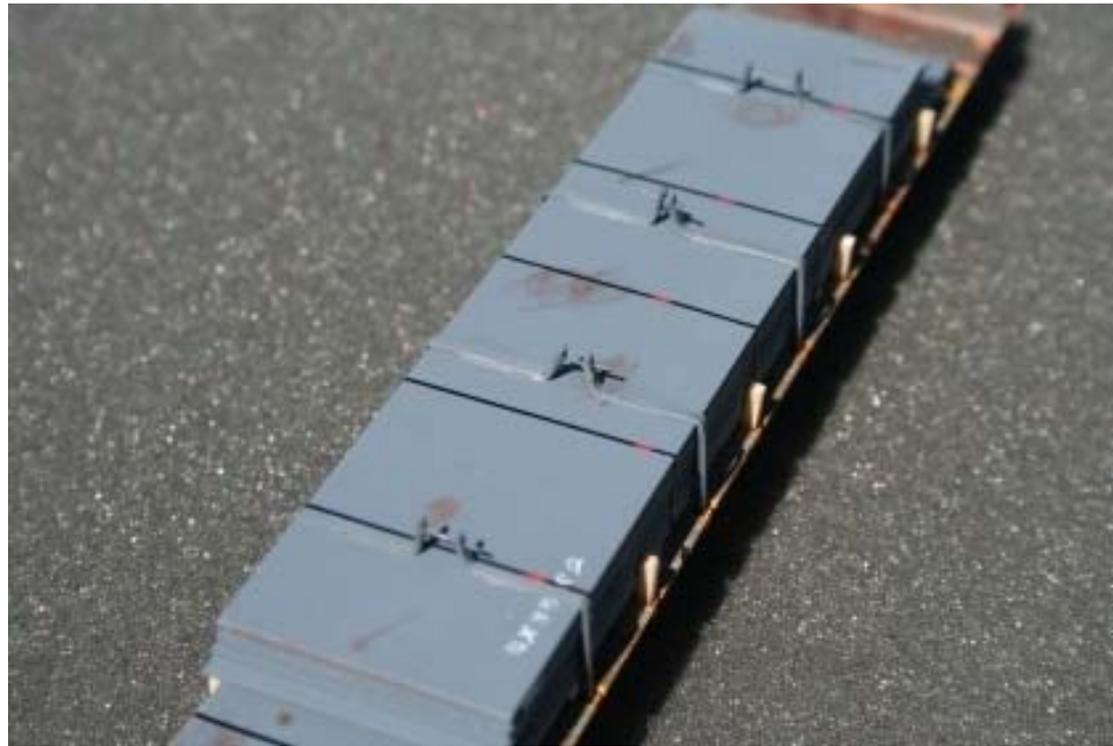
Finished steel load with out clamps



Finished Model without dunnage in load and clamps installed



# Finished Model without dunnage in load



# Finished Model with dunnage in load



# Finished Model with dunnage in load



# Materials items for 60 foot Bulkhead Flatcar

- Plastruct 3/16 "I" Beam #90515
- Plastruct 1/4 "I" Beam #90516
- Plastruct 5/16 "I" Beam #90517
- Plastruct 3/8 "I" Beam #90518
- Plastruct 7/16 "I" Beam #90519
- Plastruct 1/2 "I" Beam #90520
- Plastruct 9/16 "I" Beam #90521
- Plastruct 5/8 "I" Beam #90522
- Northeastern Scale Lumber #3030, HO 4 X 4
- RustAll

## Required Items (continued)

- Model Master Gunship Grey #1923 (spray)
- Model Master Gunship Grey #1723 (brush on)
- Model Master Dark Slate Grey #2056 (brush on)
- Model Master #2015 Flat Clear Finish (brush on)
- Model Master Camouflage Grey #FS36622 (brush on)
- Testors Brown #1240 (spray)
- Testors Dull Coat #1160 (spray)
- Testors Rust #1185 (brush on)
- Testors Grey #1163 (brush on)

## Required Items (continued)

- Testors Silver #1146 (brush on)
- Testors Wood, 1141 (brush on )
- Testors Rubber #1183 (brush on)
- Testors Red, 1103 (brush on )
- Polly Scale TTX Yellow #F404067 (brush on)
- A-Line #29000 Style "A" Stirrup Steps
- Detail Associates #2202 17" Drop Grab Irons
- Detail Associates #2225 14" Straight Grab Irons
- Detail Associates #6210 17" Straight Grab Irons
- Micro Scale #70211 N Scale Graffiti
- Weathering chalks

## Required Items (continued)

- Athearn 60' bulkhead flatcar #ATH88111
- Kadee #5 couplers
- Walthers Goo
- Tenax-7R
- Pactra Trim Tape, Black

# Required Tools

- X-Acto knife blades, #11 and #17
- Pin vise
- #76, #80 drill bits
- NSW Chopper
- Exxact Socket tool
- NMRA HO scale gauge
- Postal scales
- Kadee coupler height
- Steel HO Scale ruler
- X-Acto miter box and razor saw
- Touch-N-Flow glue applicator

# Painting the trucks and wheels.



William E. Jameson, 2007

Remove cast on grab irons and stirrups with a #17 X-Acto blade. Drill # 80 holes for grab irons and drill #76 holes for stirrups



Cut some of the board ends to look like they have been broken



Distress the deck with razor saw.



Use several of the paint colors to age the deck.  
Give the deck a coat of RustAll after “aging” the deck.



# Banding the top layer



# Dunnage on top layer



# Banding clips on top layer



## Banding the second layer



# Dunnage on second layer



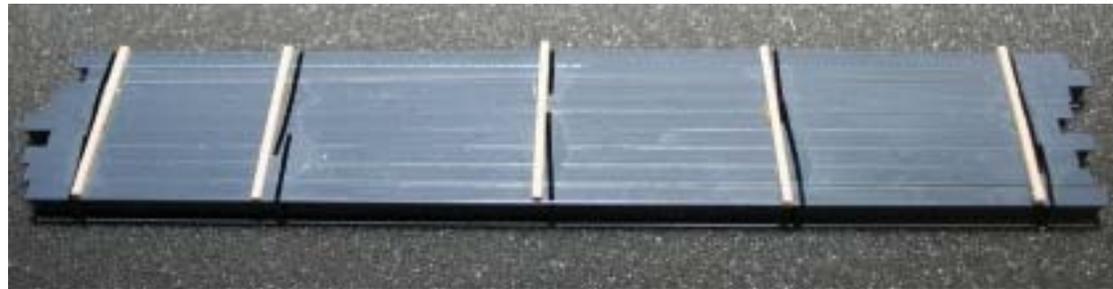
## Banding clips on second layer



# Banding on third layer



## Dunnage on the third layer



## Banding the fourth layer



## Dunnage on the fourth layer



Banding the top and second layer together



Banding the top two layers to the third layer



Band clips on the second layer after adding third layer



Banding the top three layers to the fourth layer,  
which completes the load



Finished model I-beam load with four different sized beams



# Completed I-beam load with two different sized beams



Finished model with I-beam load with two different sized beams



I hope that you enjoyed learning how to build steel loads and weather for a 60 foot flatcar and a 60 foot bulkhead flatcar. This is like the old Lay's potato chip slogan, "You can't do JUST one!"

Thanks for attending our clinic, and we hope that you enjoy the rest of the convention!

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Questions?