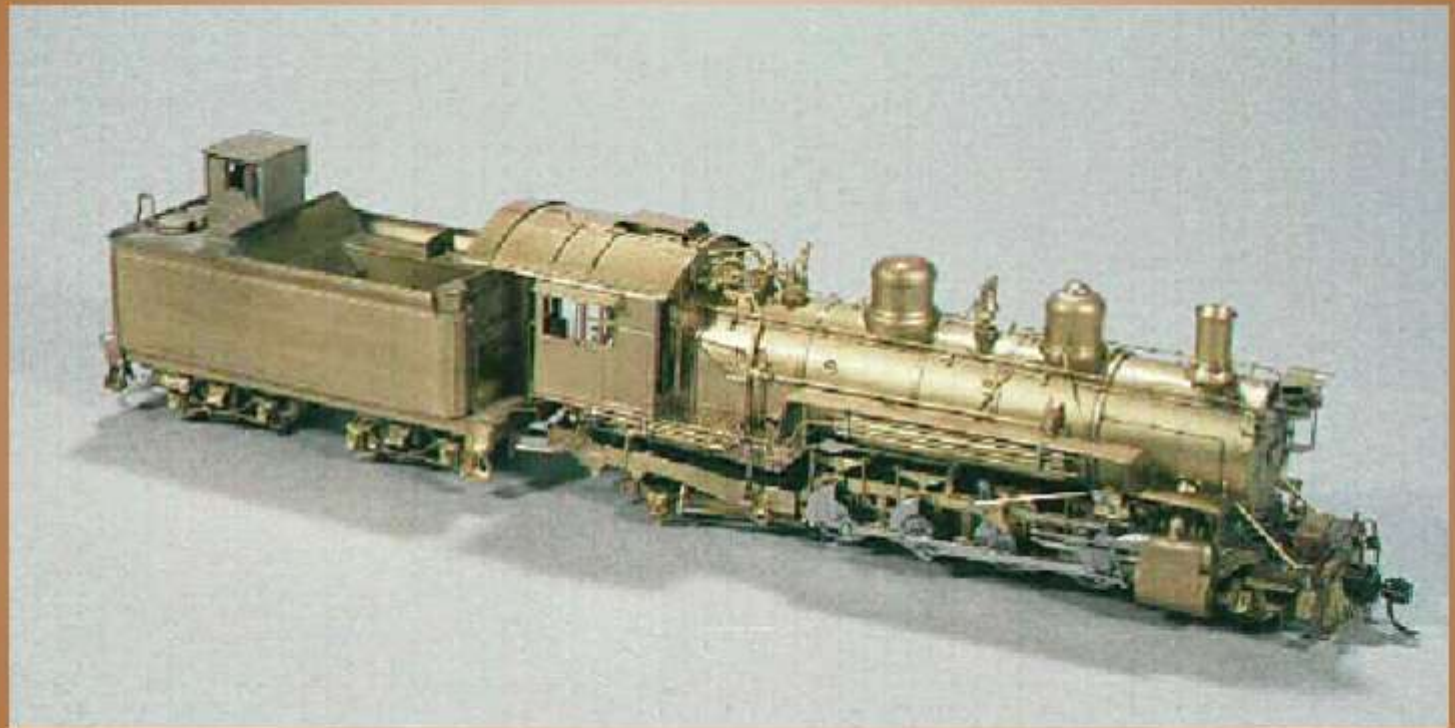


A black steam locomotive is positioned on a set of railroad tracks. The locomotive is facing right and is partially obscured by a large, yellow, stylized text overlay. The tracks lead towards a stone building with a large arched opening. The ground is covered in gravel and dirt. The entire image is framed by a thin brown border.

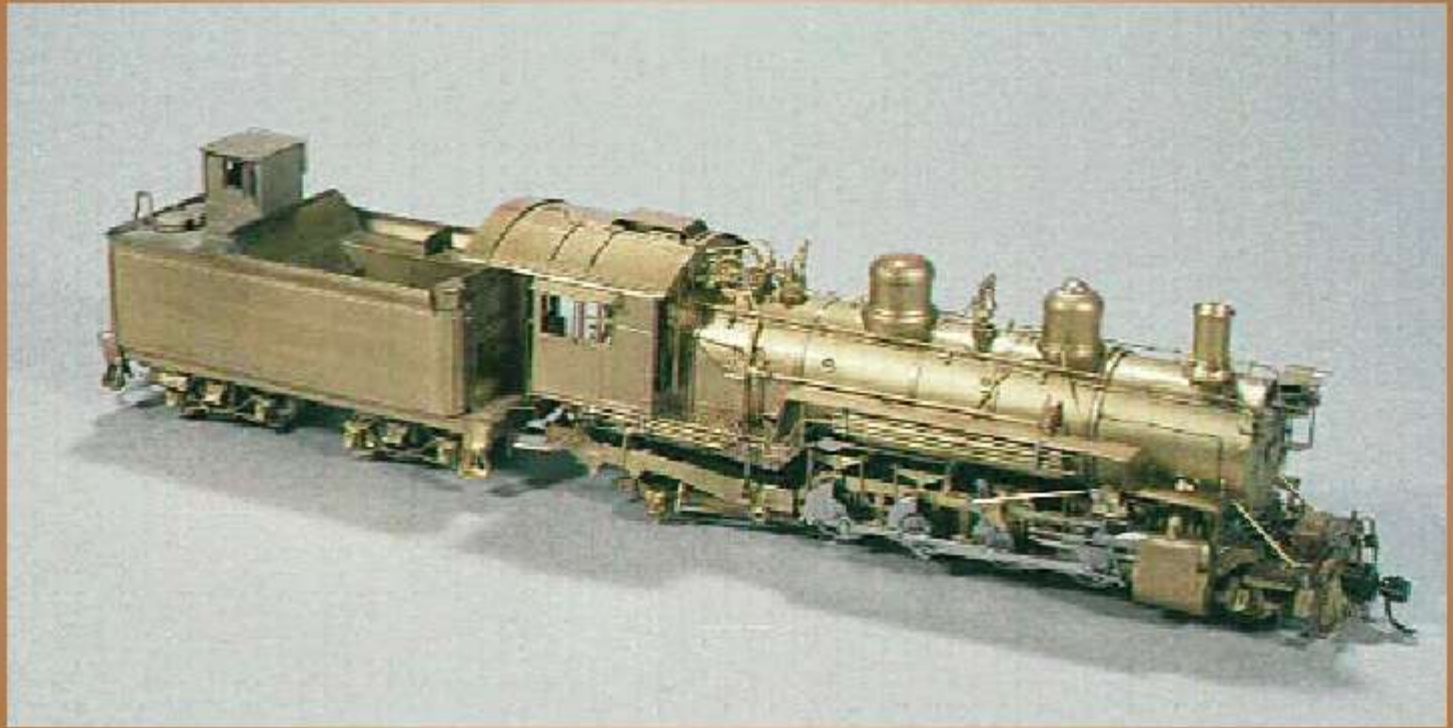
Overhauling and Painting A Brass Locomotive

A black and white photograph of a steam locomotive on a track, with a dense forest in the background. The locomotive is emitting smoke from its smokestack. The text "Presented by Tom Troughton, MMR" is overlaid in large, bold, yellow letters with a black outline.

**Presented by
Tom Troughton,
MMR**



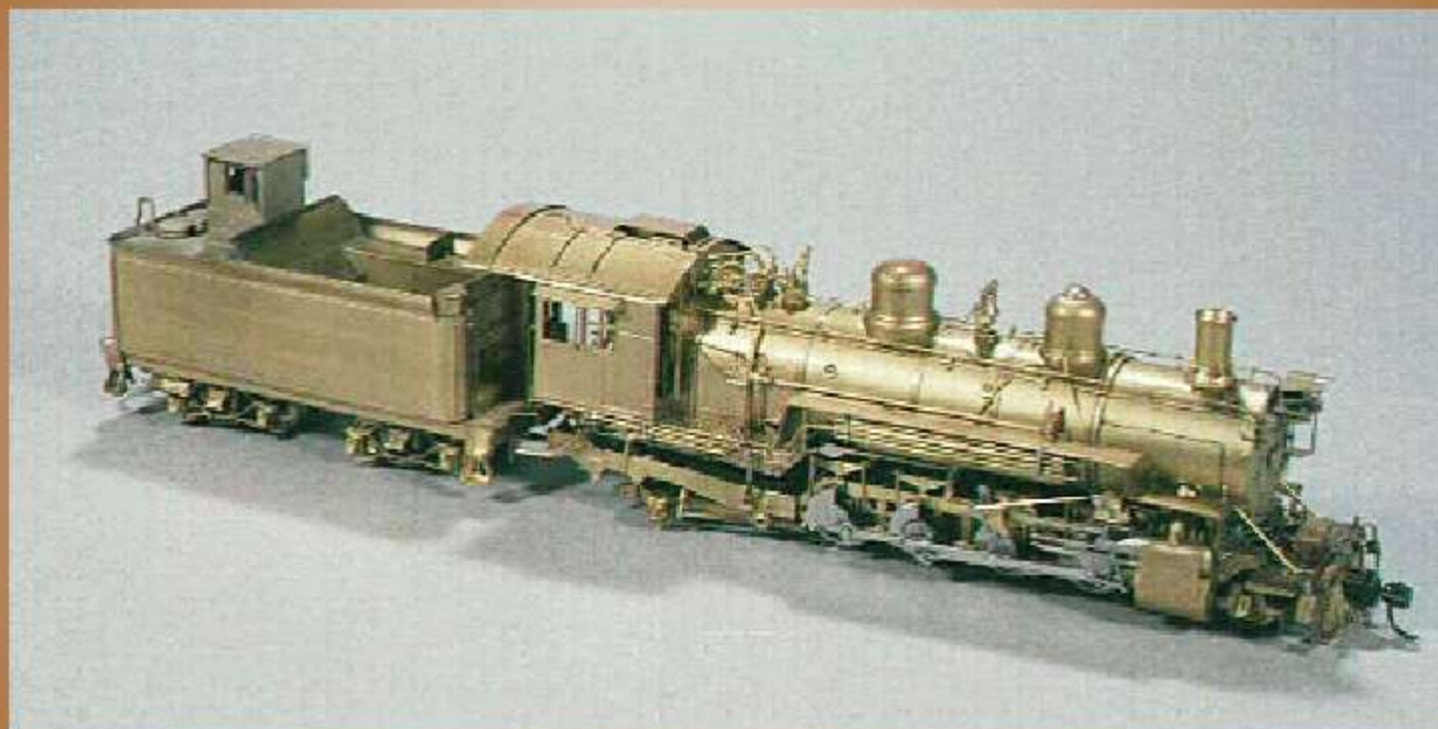
Basic Unpainted Engine



Basic Unpainted Engine

Problems:

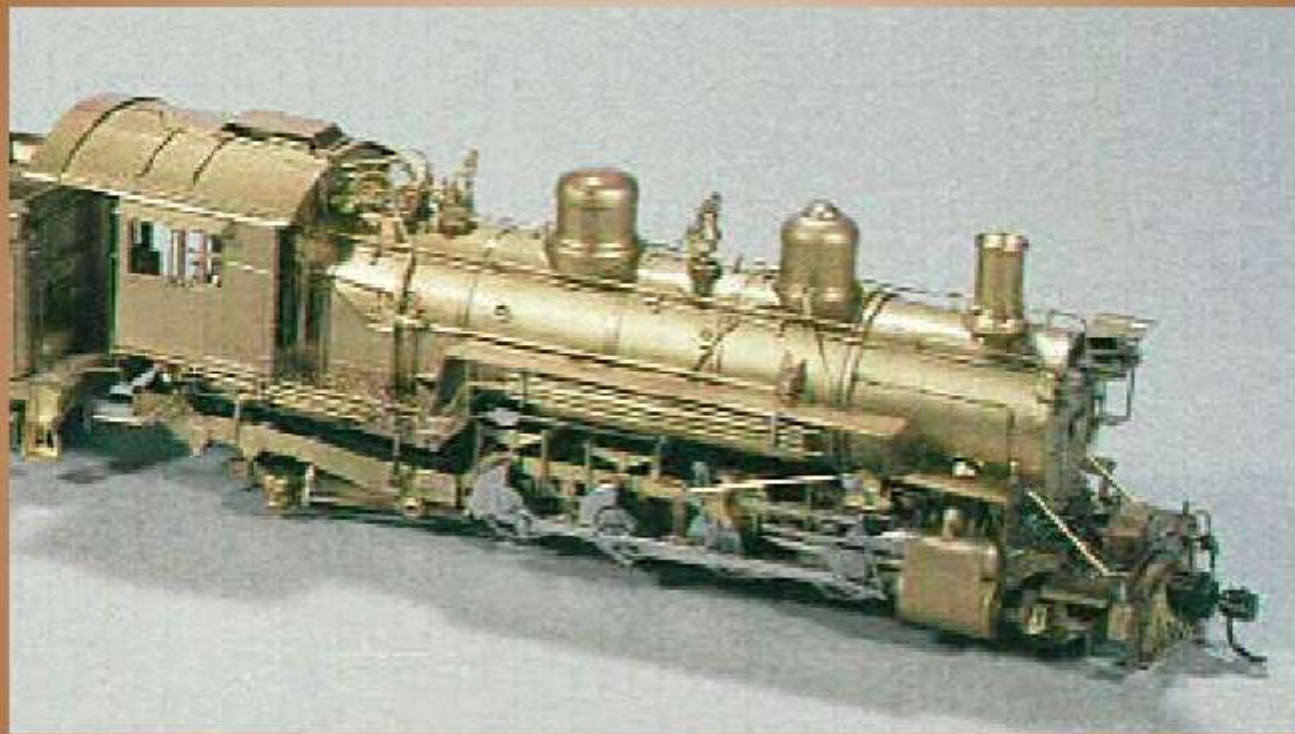
High Speed Gearing



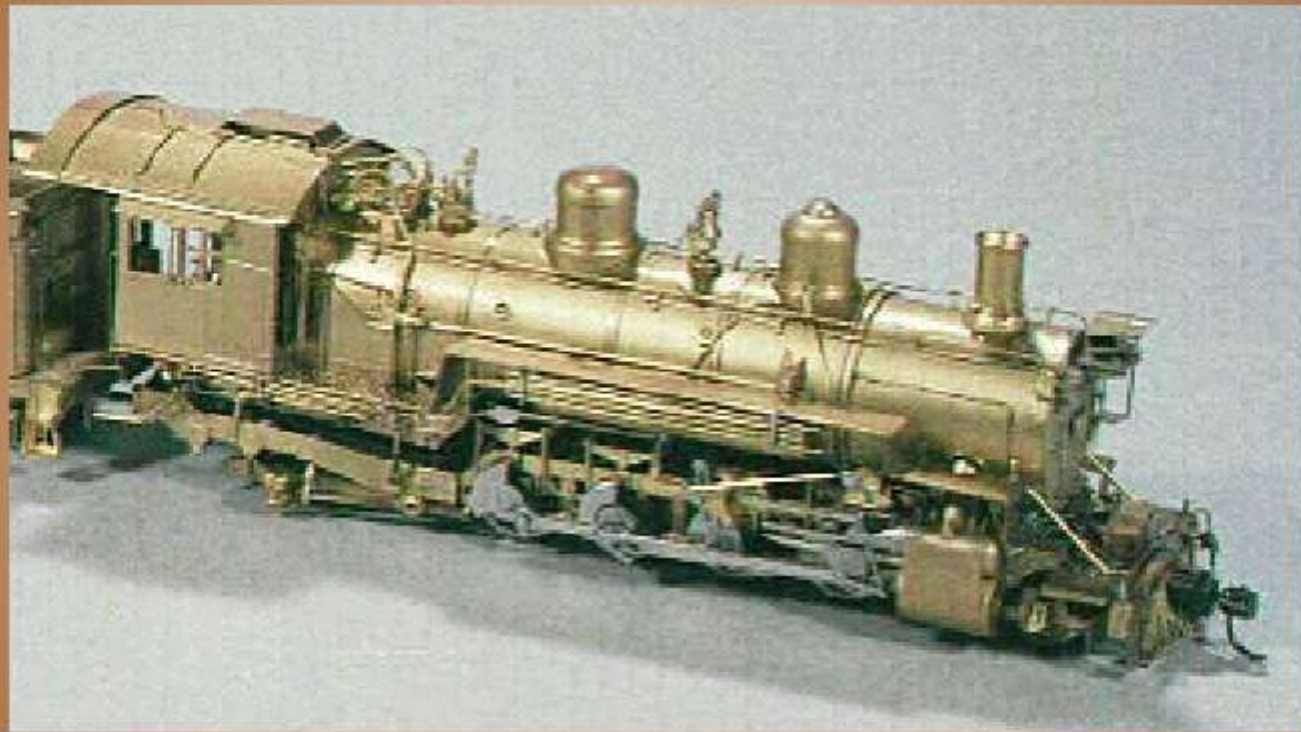
Basic Unpainted Engine

Problems:

**High Speed Gearing
Looked The Same As #491**

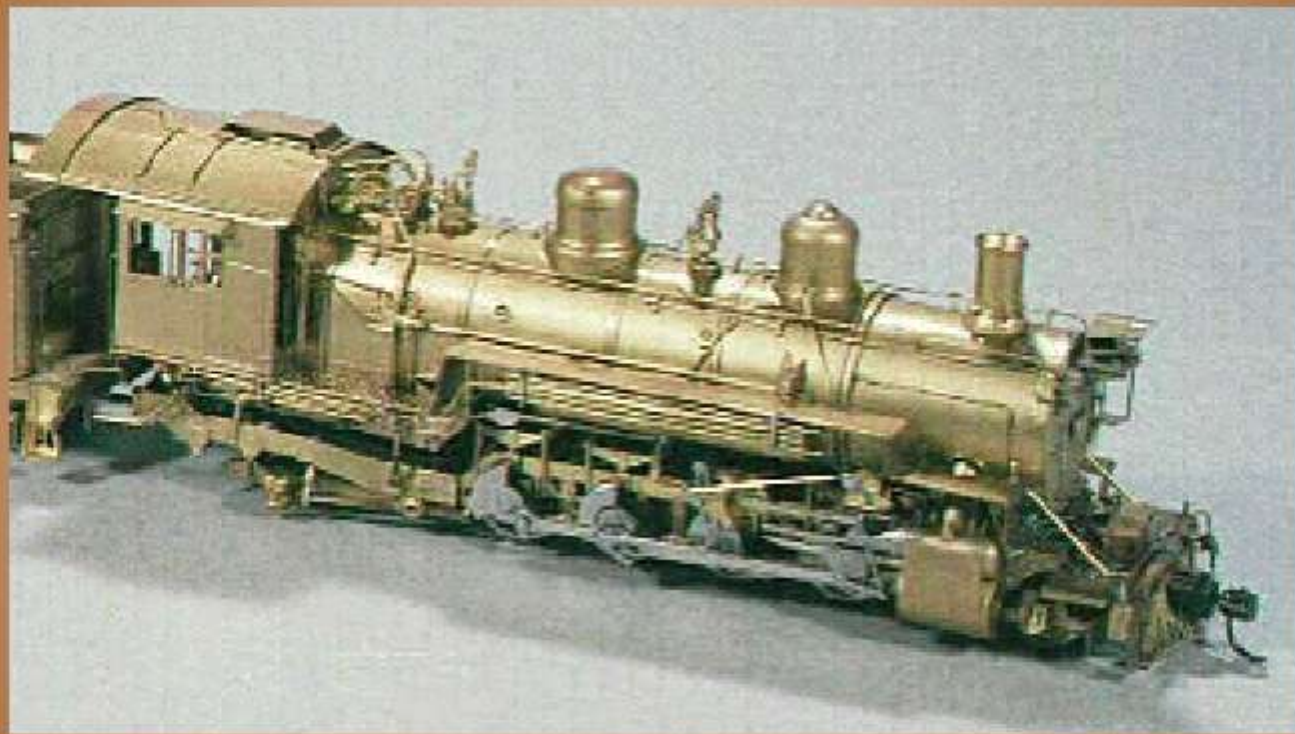


Creating Engine #497



Creating Engine #497

Install New Motor



Creating Engine #497

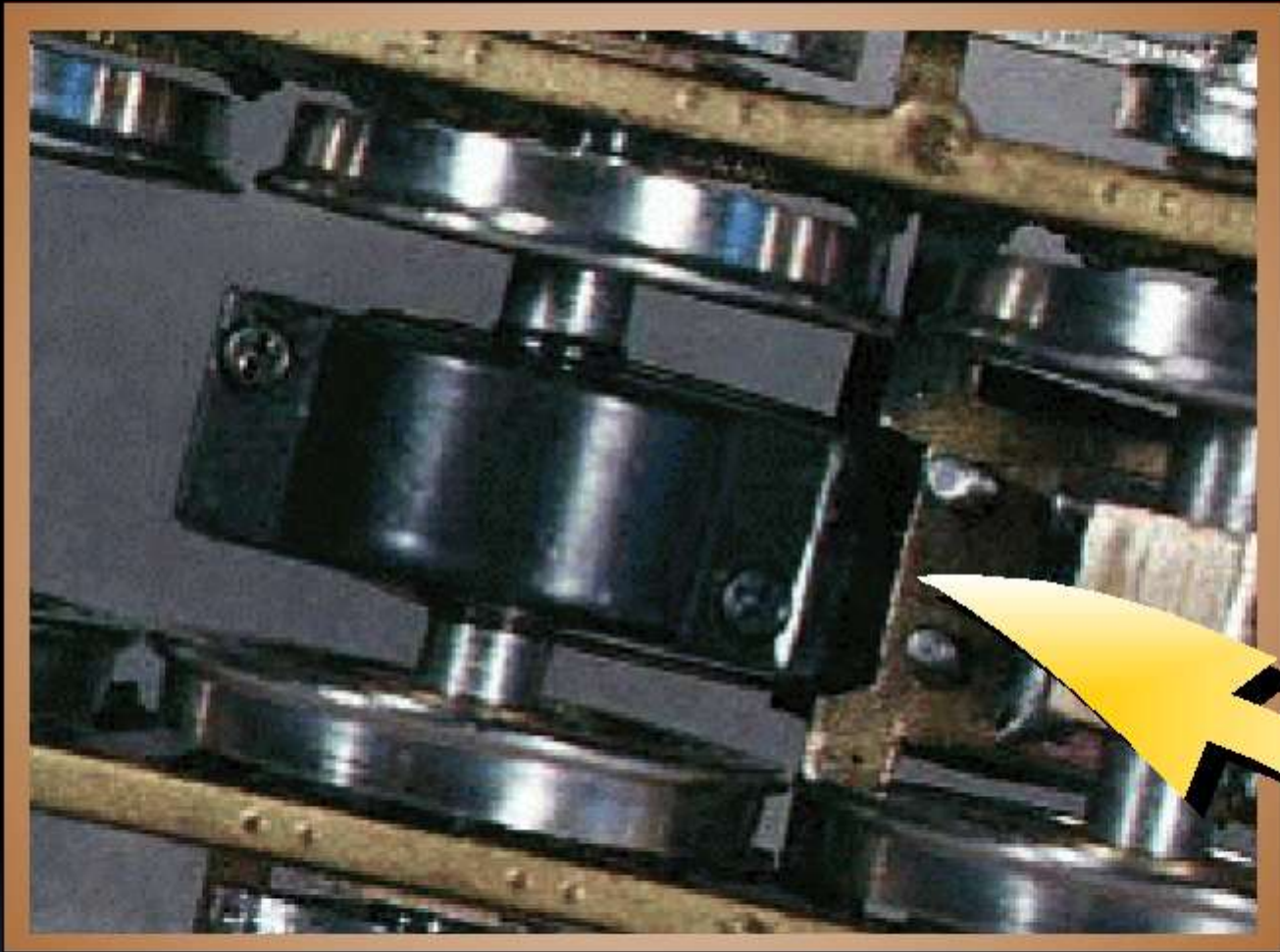
Install New Motor

Change Gearbox and Axle Gear

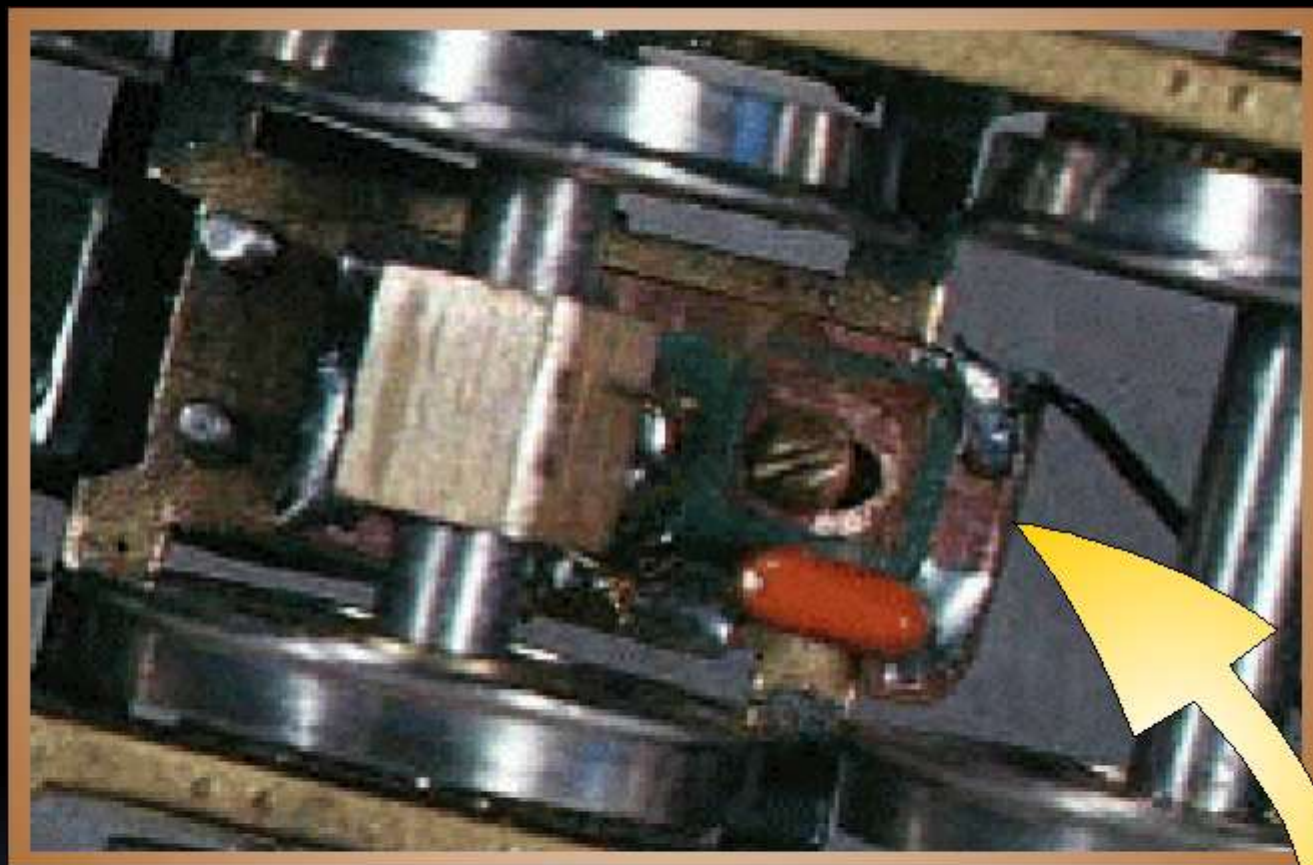
Changing The Motor & Gearbox



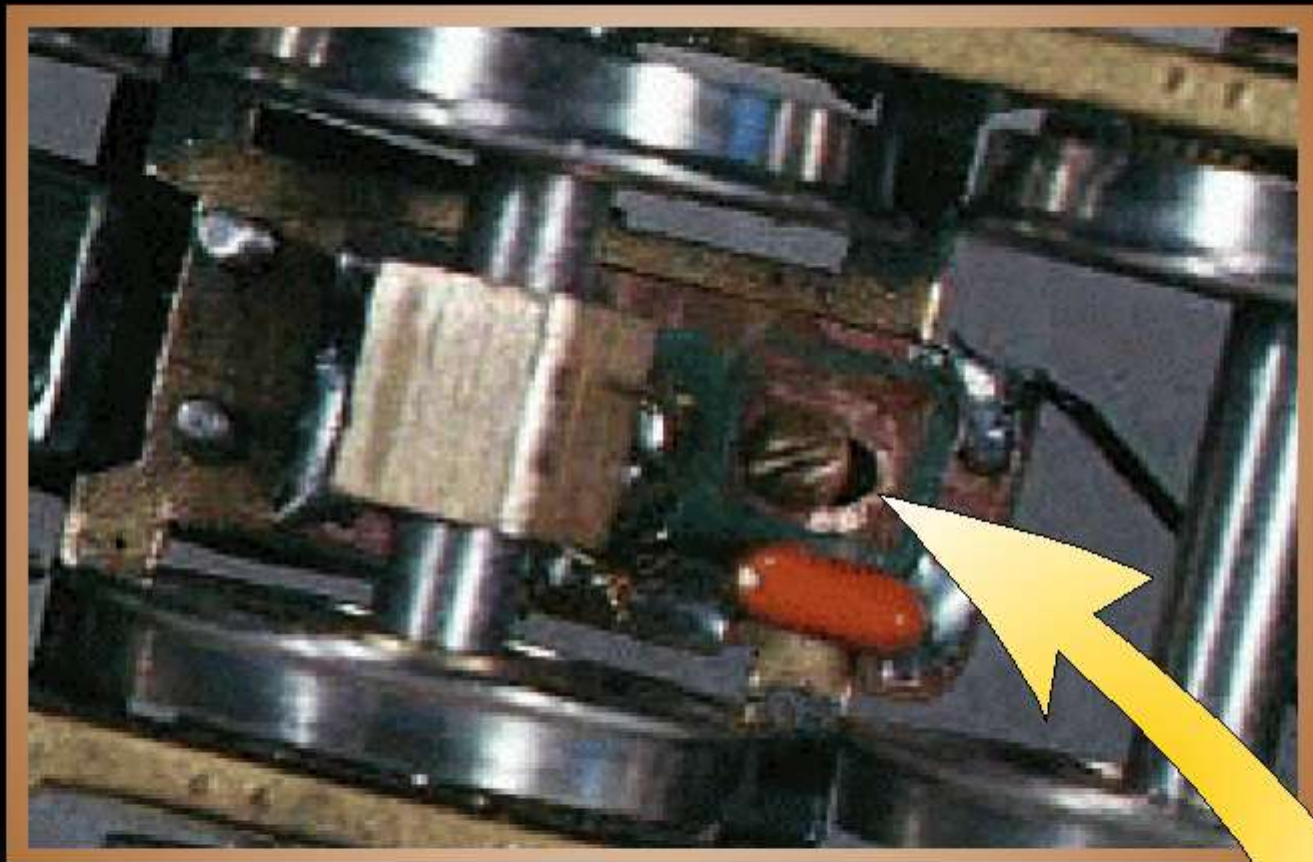
New Motor & Gearbox



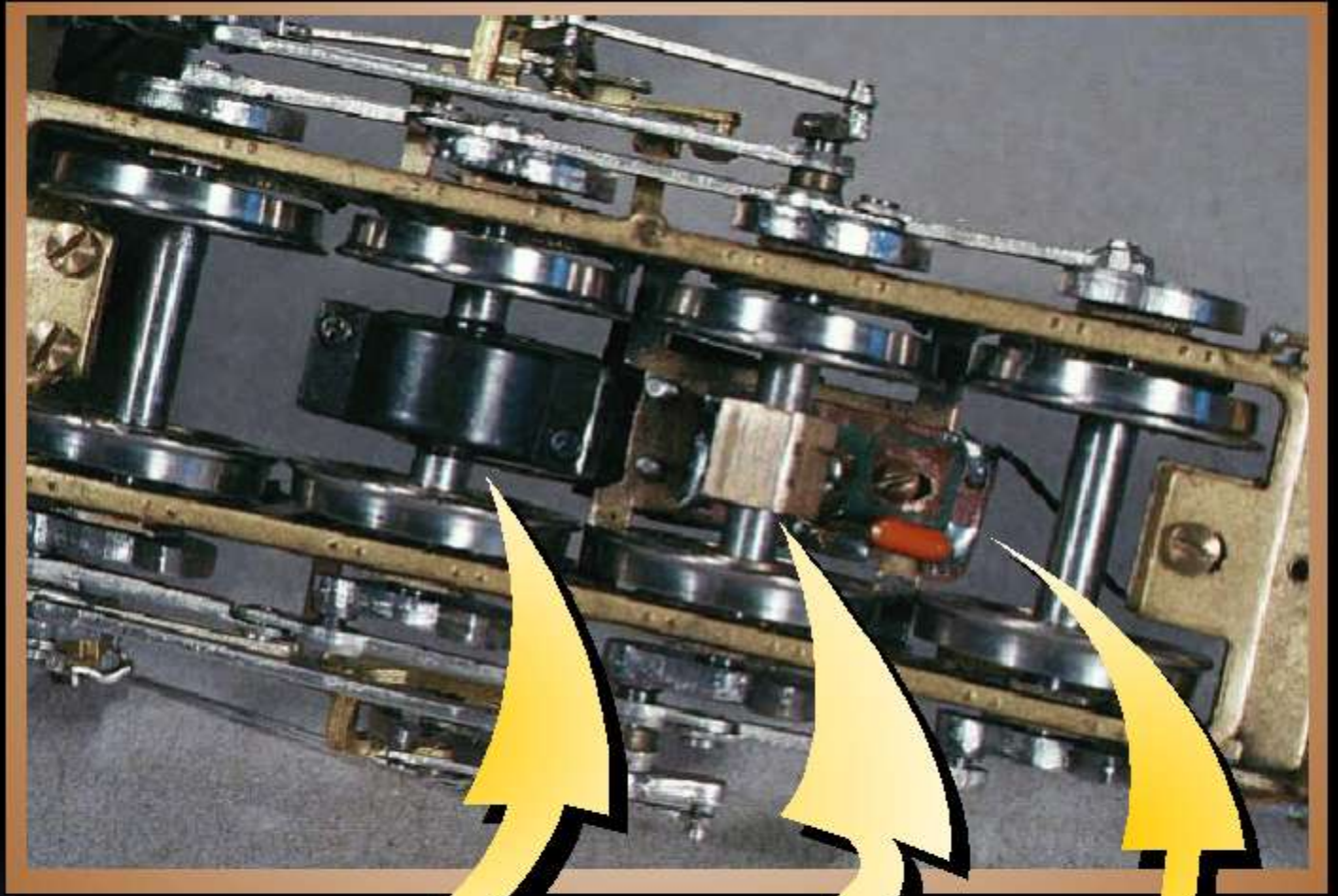
**Frame Notched To Clear
New Gearbox**



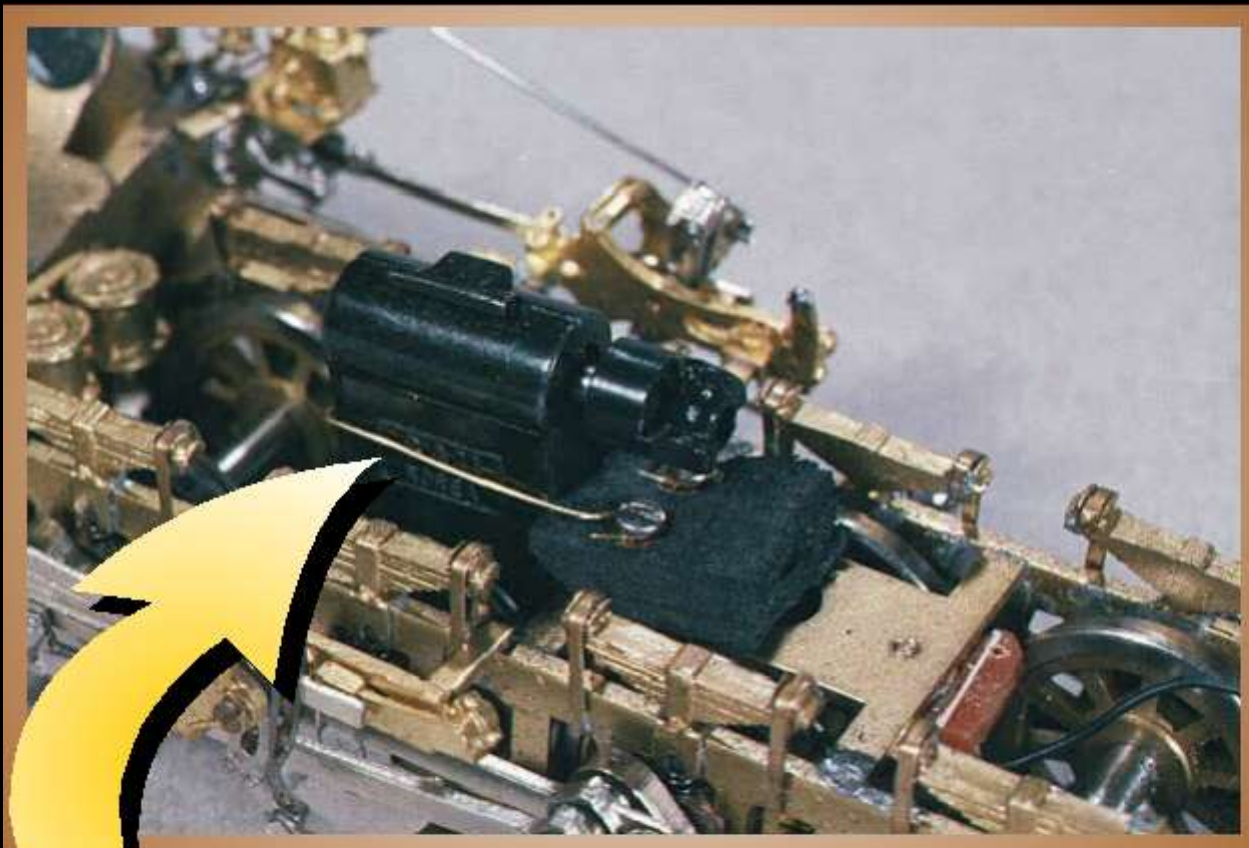
Sound Cam Wiper & Board



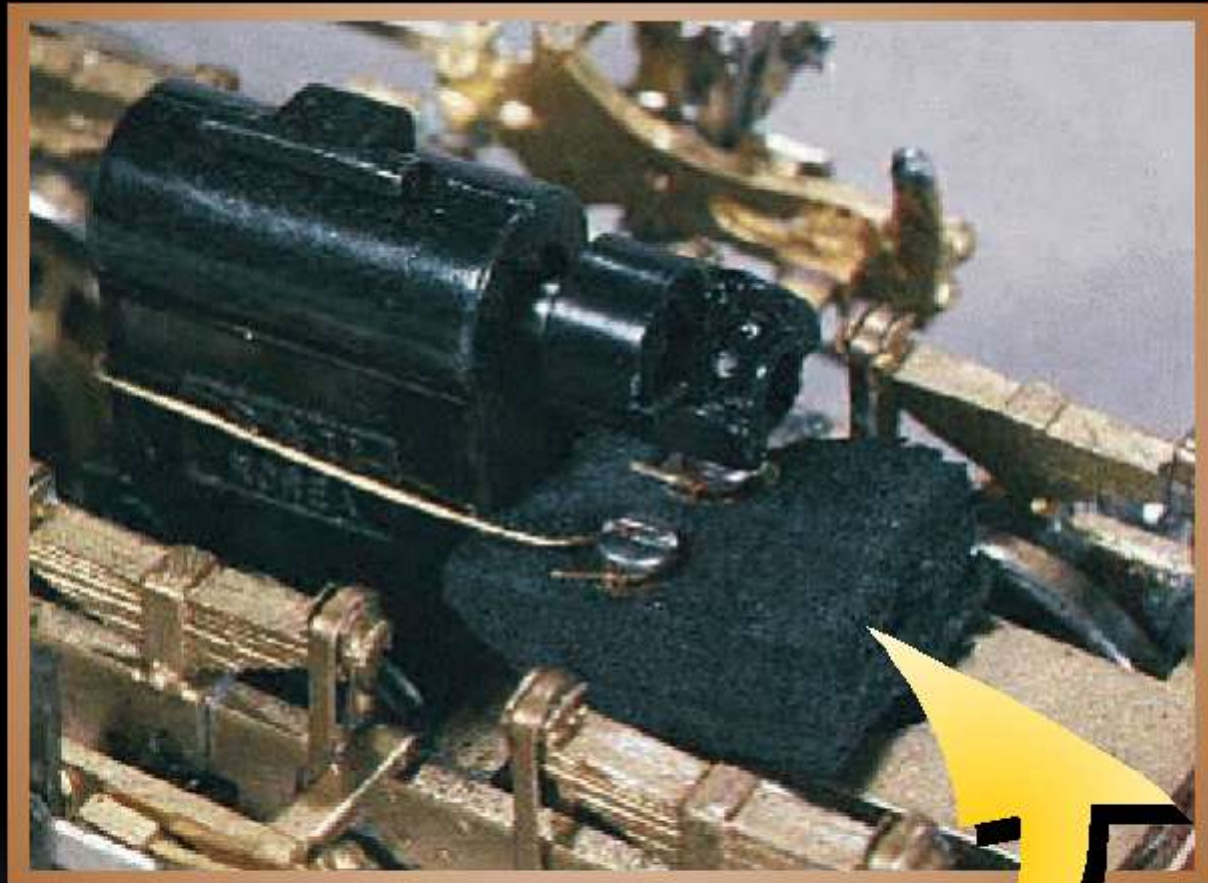
**Sound Cam Wiper & Board
Tension Adjusting Slot**



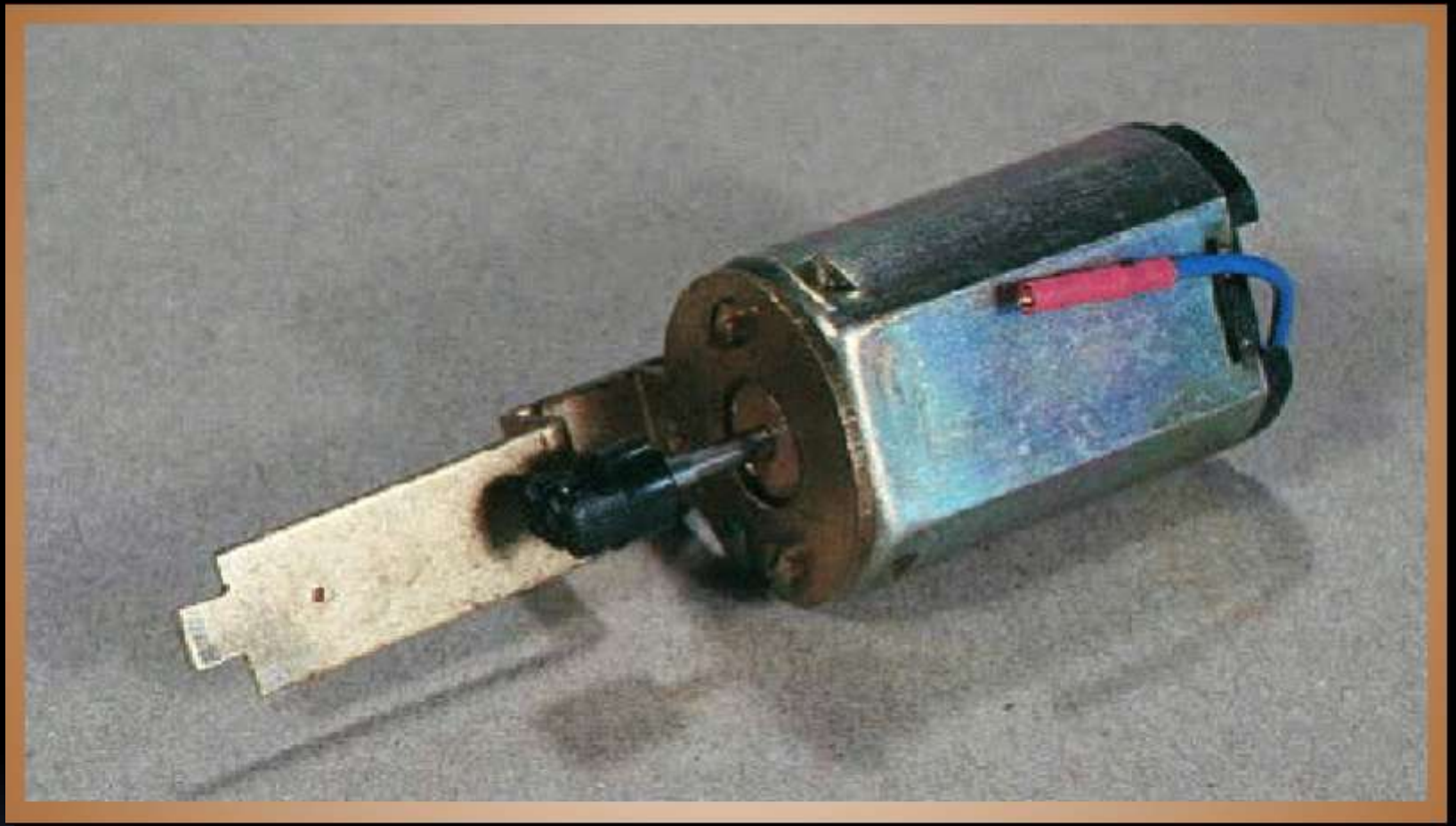
Gearbox
Cam
Cam Wiper Circuit Board



**Restraining Wire Keeps
Gearbox From Rotating
Forward**



**Rubber Cushion Also
Acts As Shock Mount**

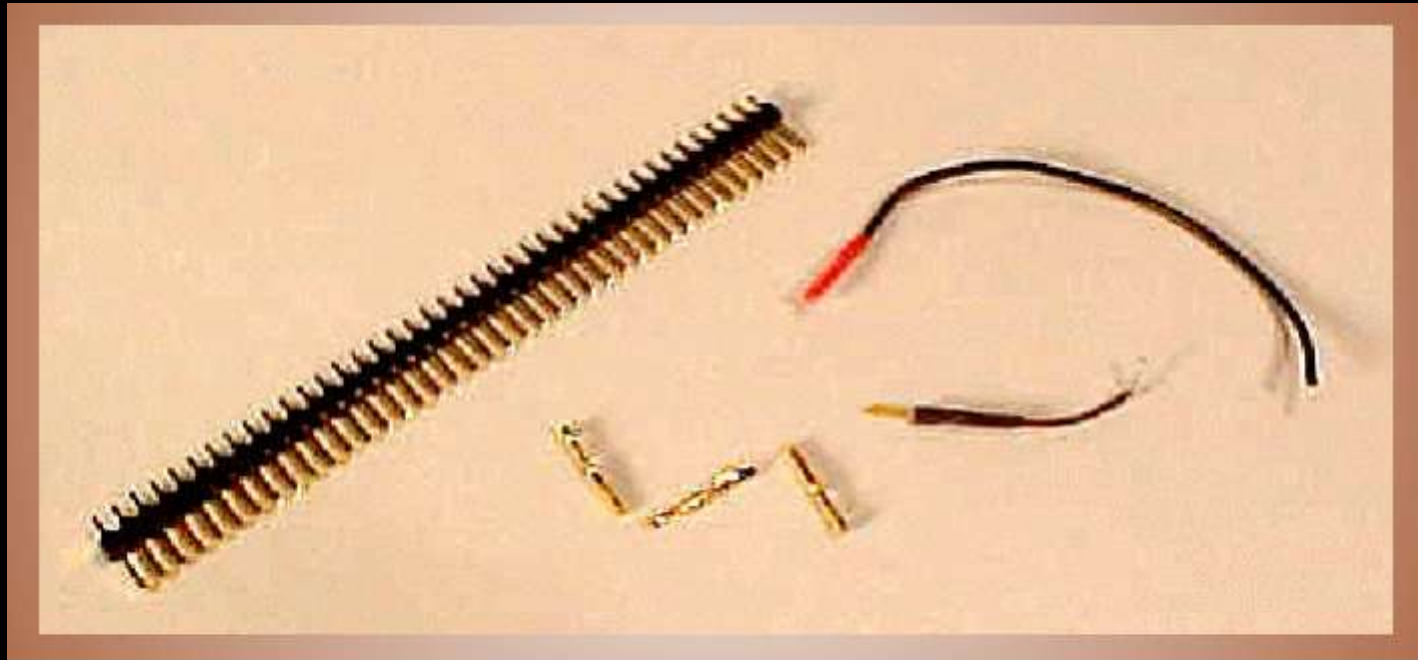


Reshaped Motor Mount

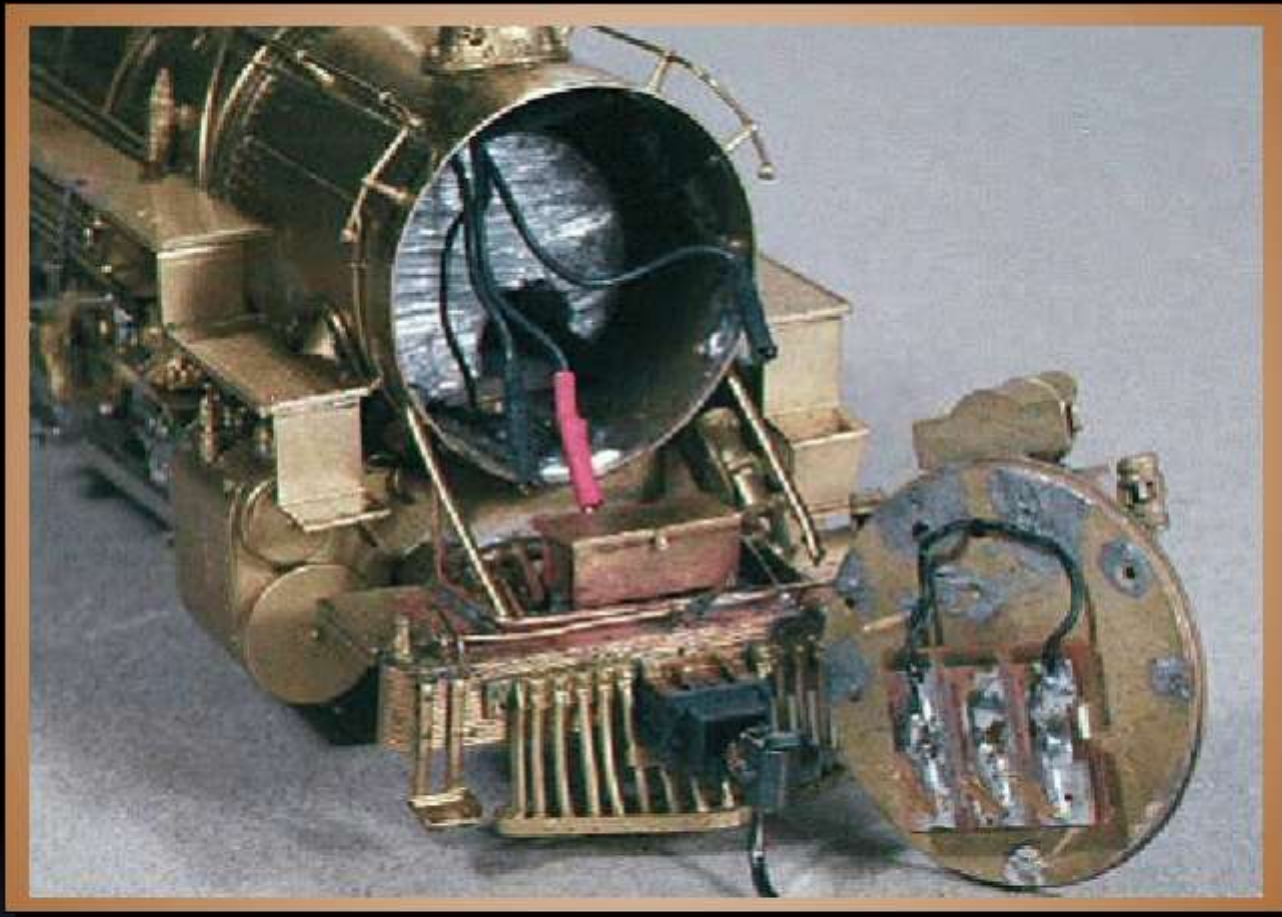


Revised Drive Train

Adding Electrical Connections



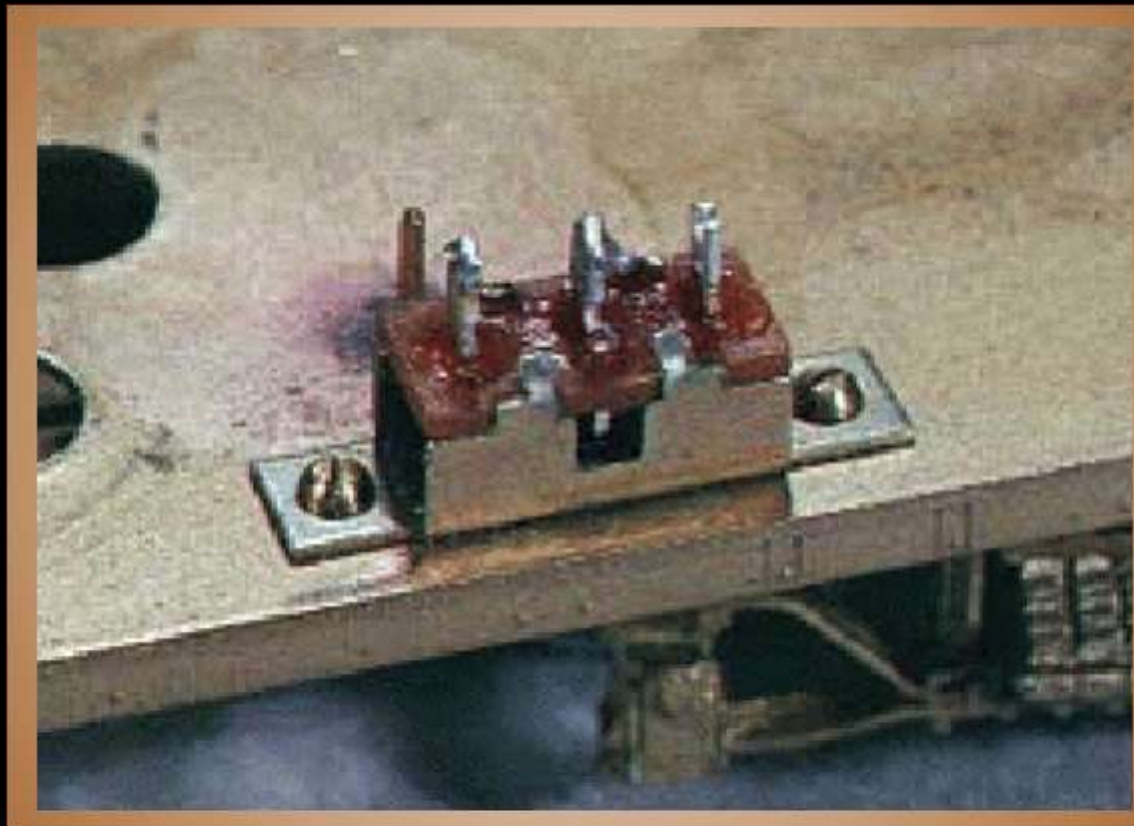
Various Electrical Connectors



**Boiler Front
Lighting Connections**

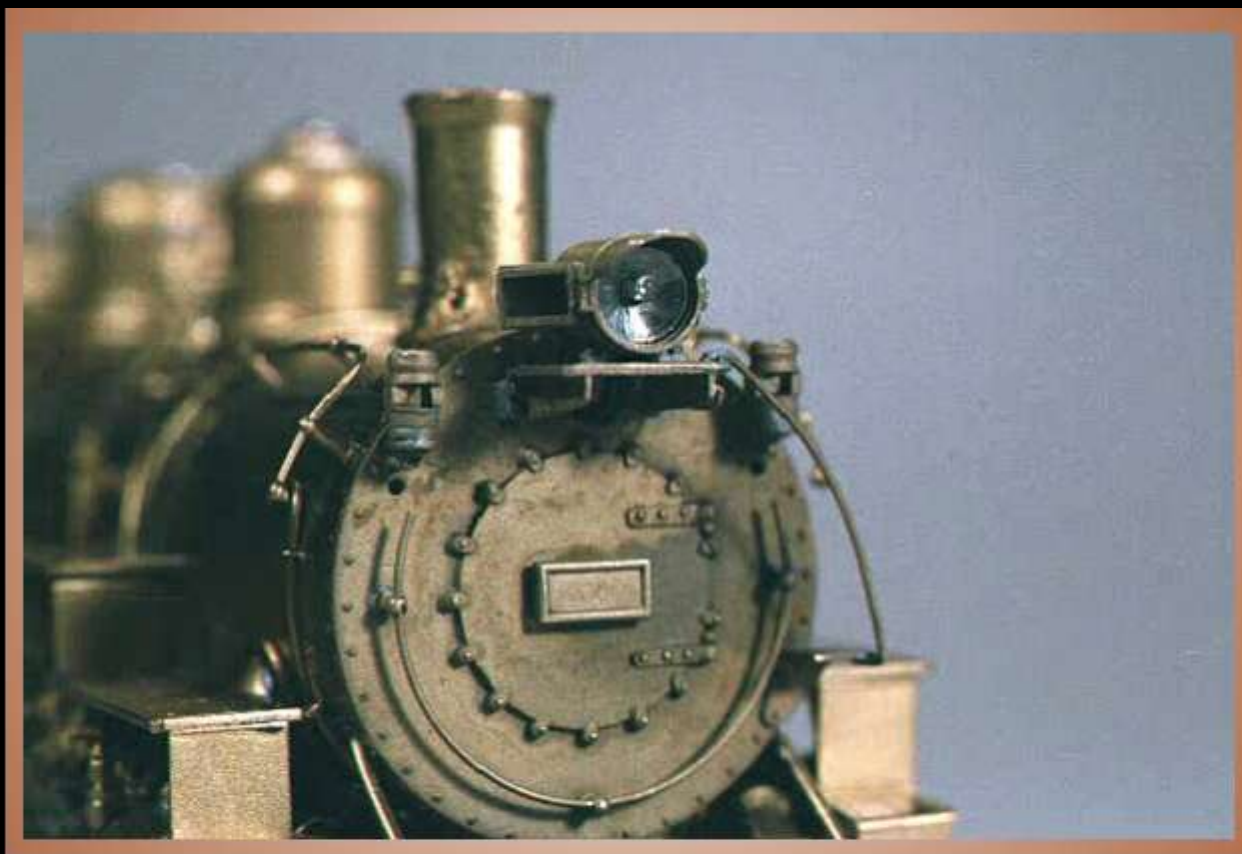


**Female Connector Soldered to
Engine Frame and Covered
With Heat Shrink Tubing**

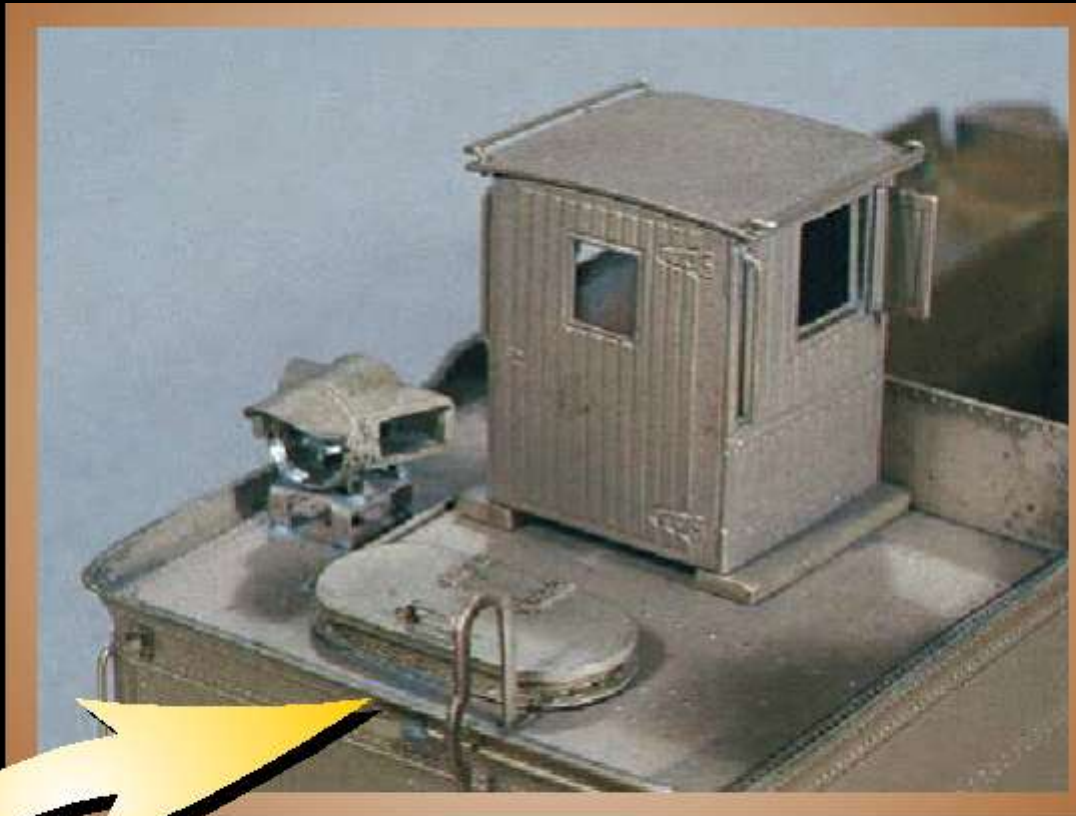


**Sound Switch Installed
On Tender Floor**

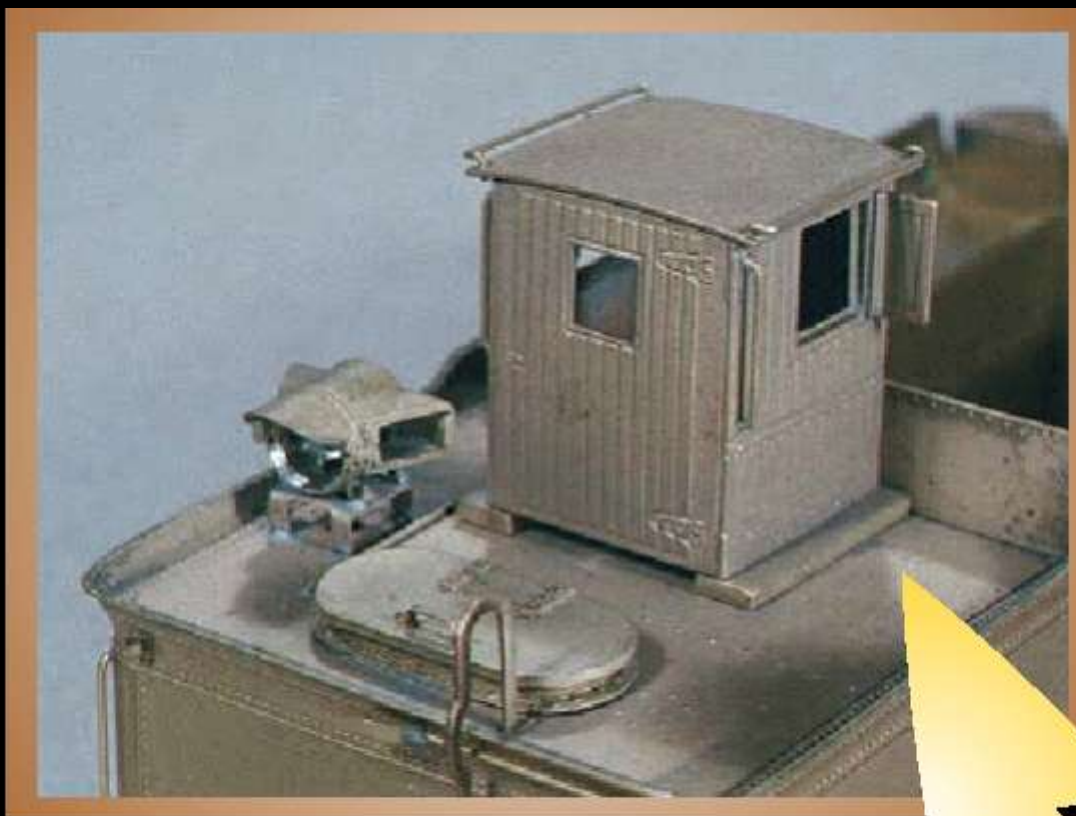
Changing and Adding The Details



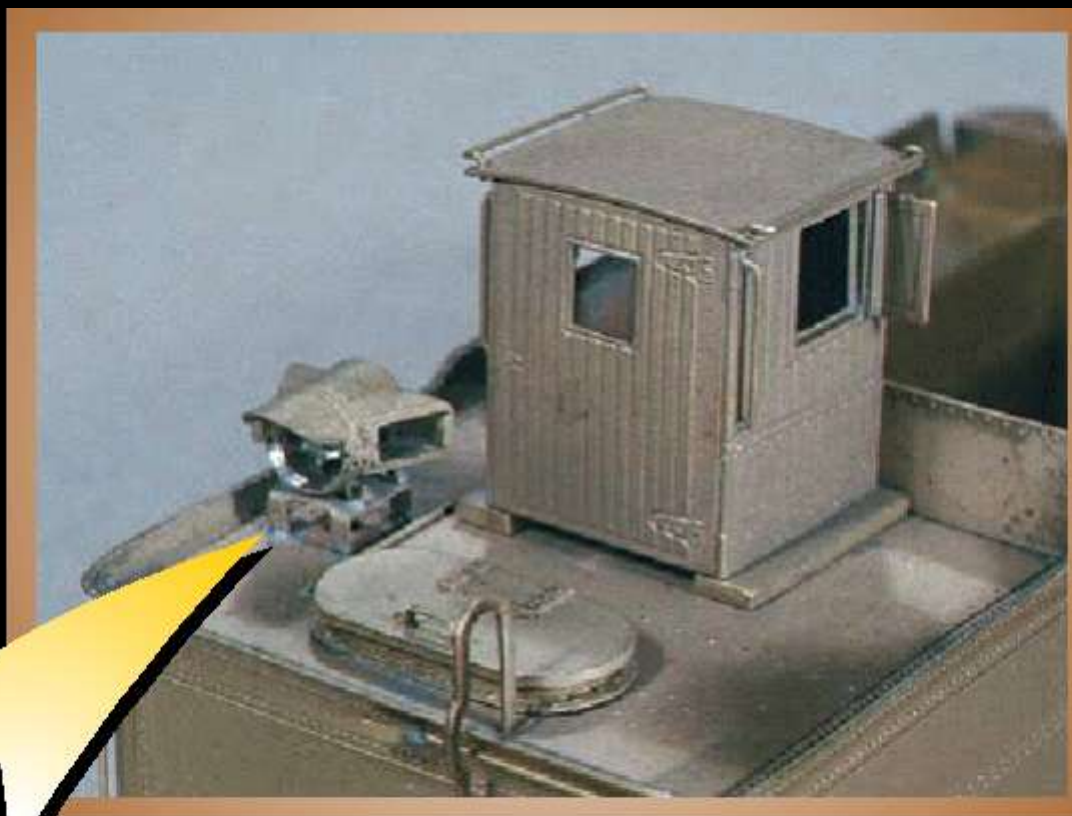
**Headlight Replaced
Faceplate Drilled For Light Wires
Turned Steel Reflector Installed**



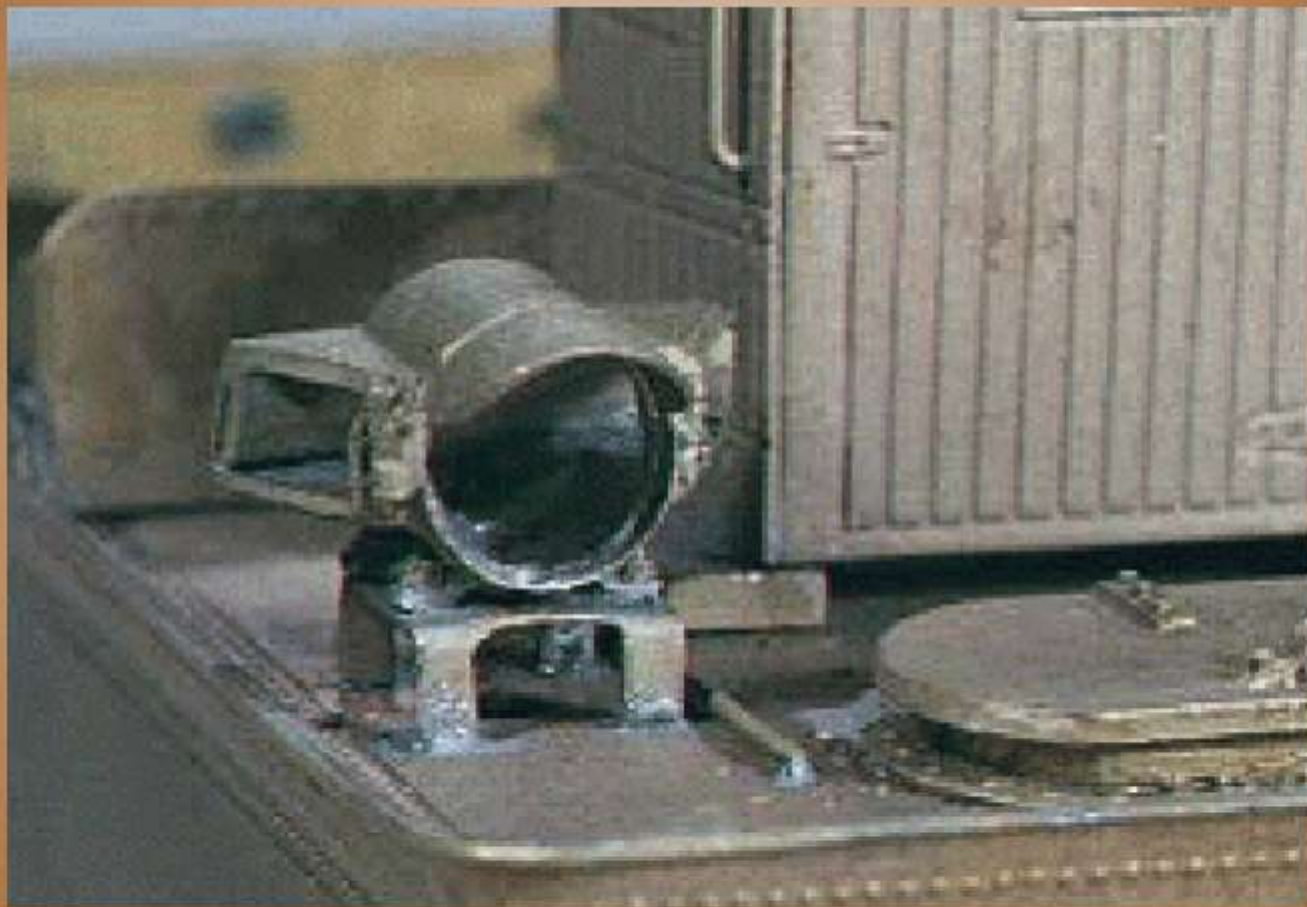
Center Mounted Light Removed



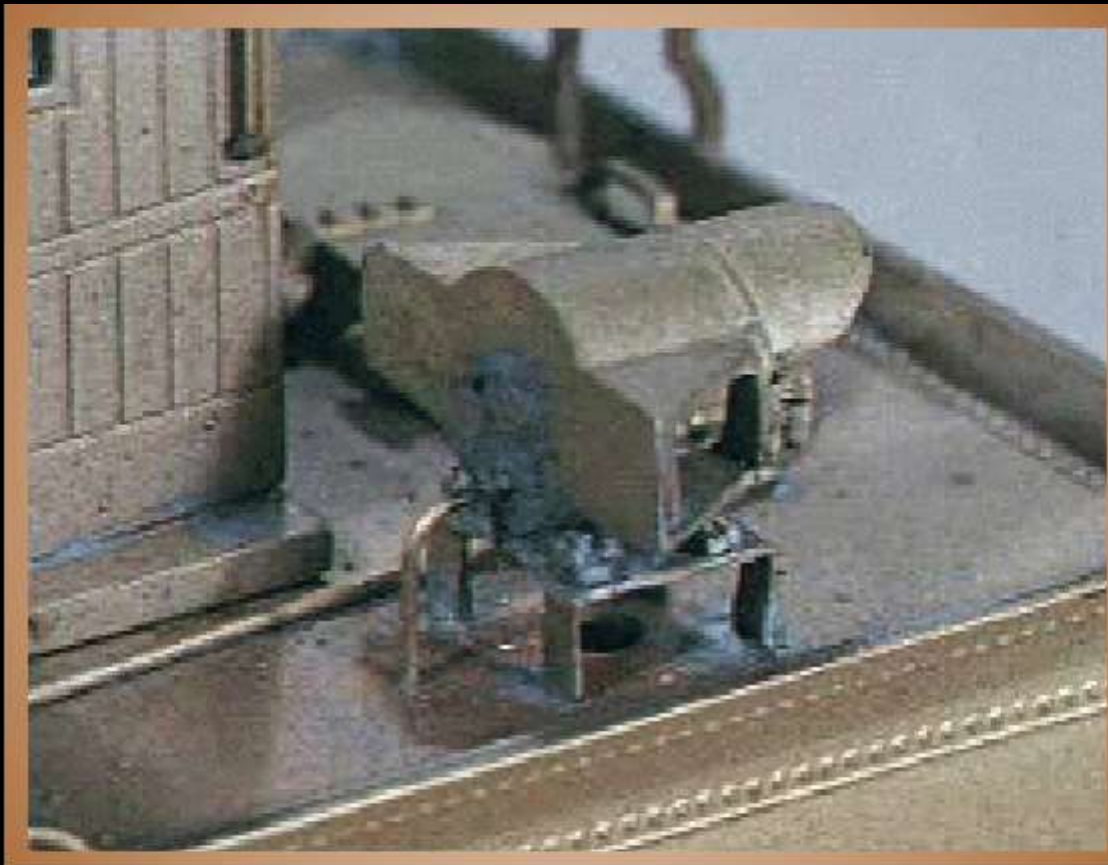
Doghouse Modified



Light and Stand Added



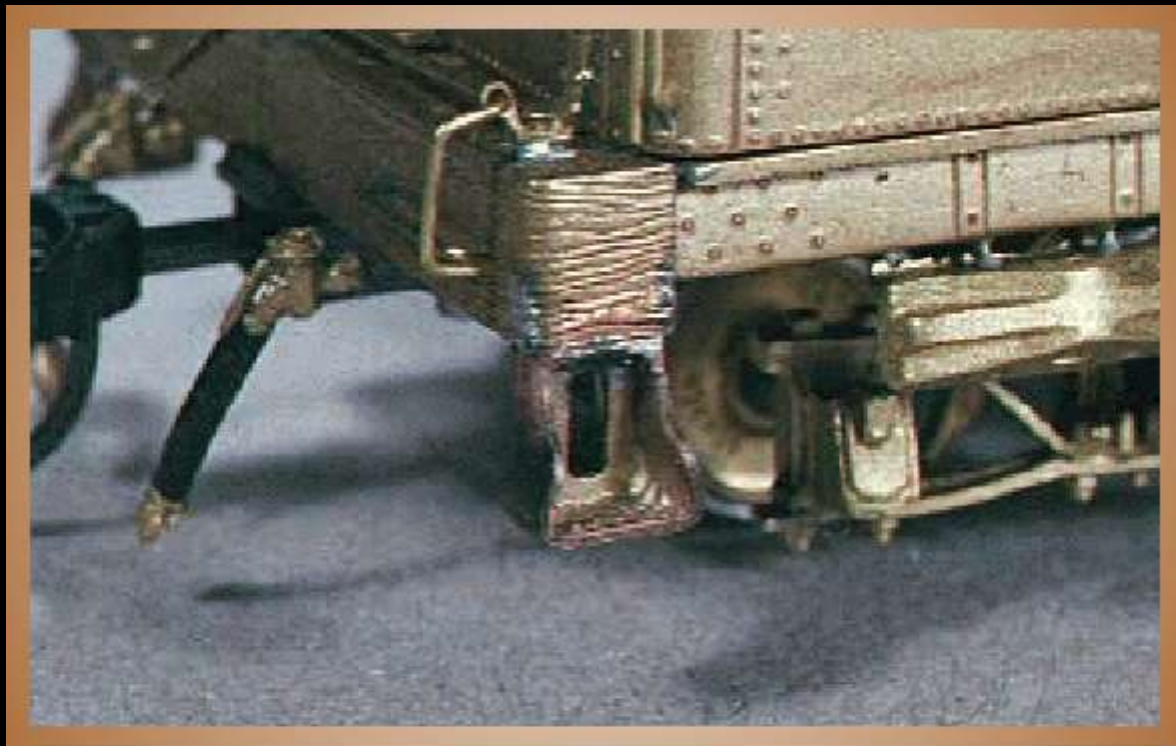
Brass Channel Stand



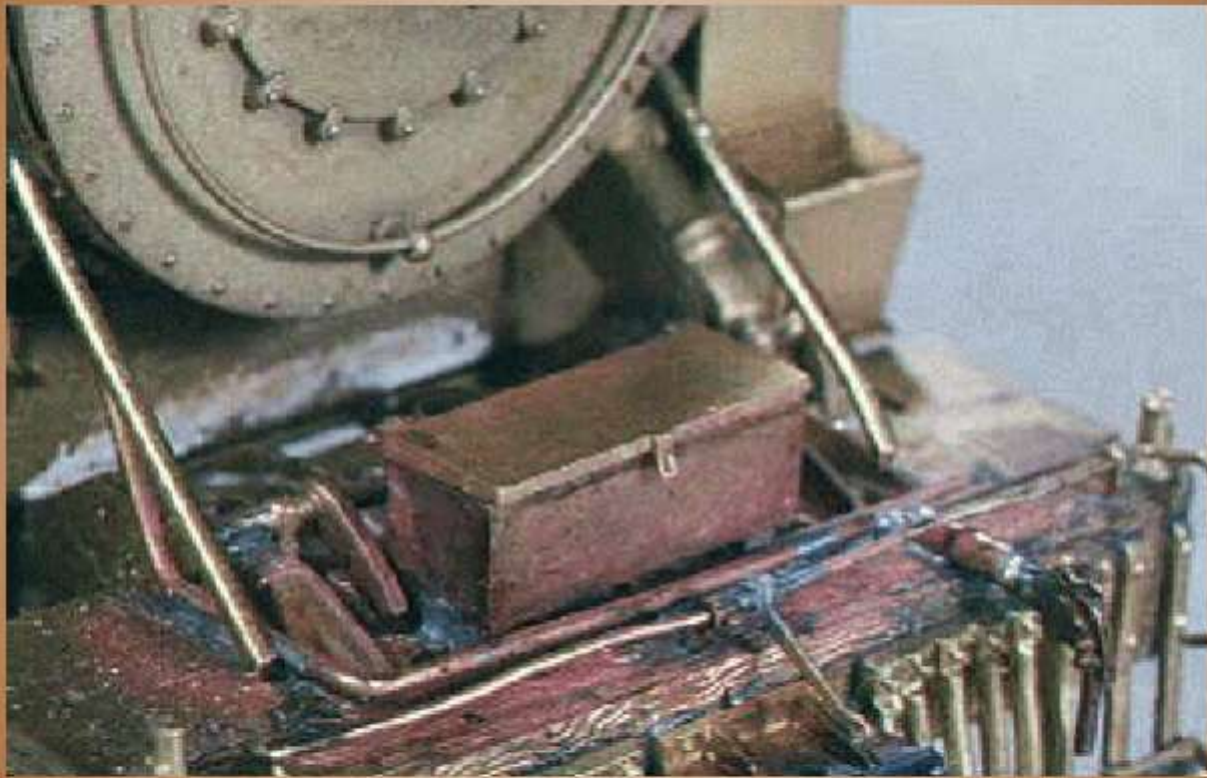
**Hole Filled With Solder
Tank Drilled For Light
Electrical Conduit Added**



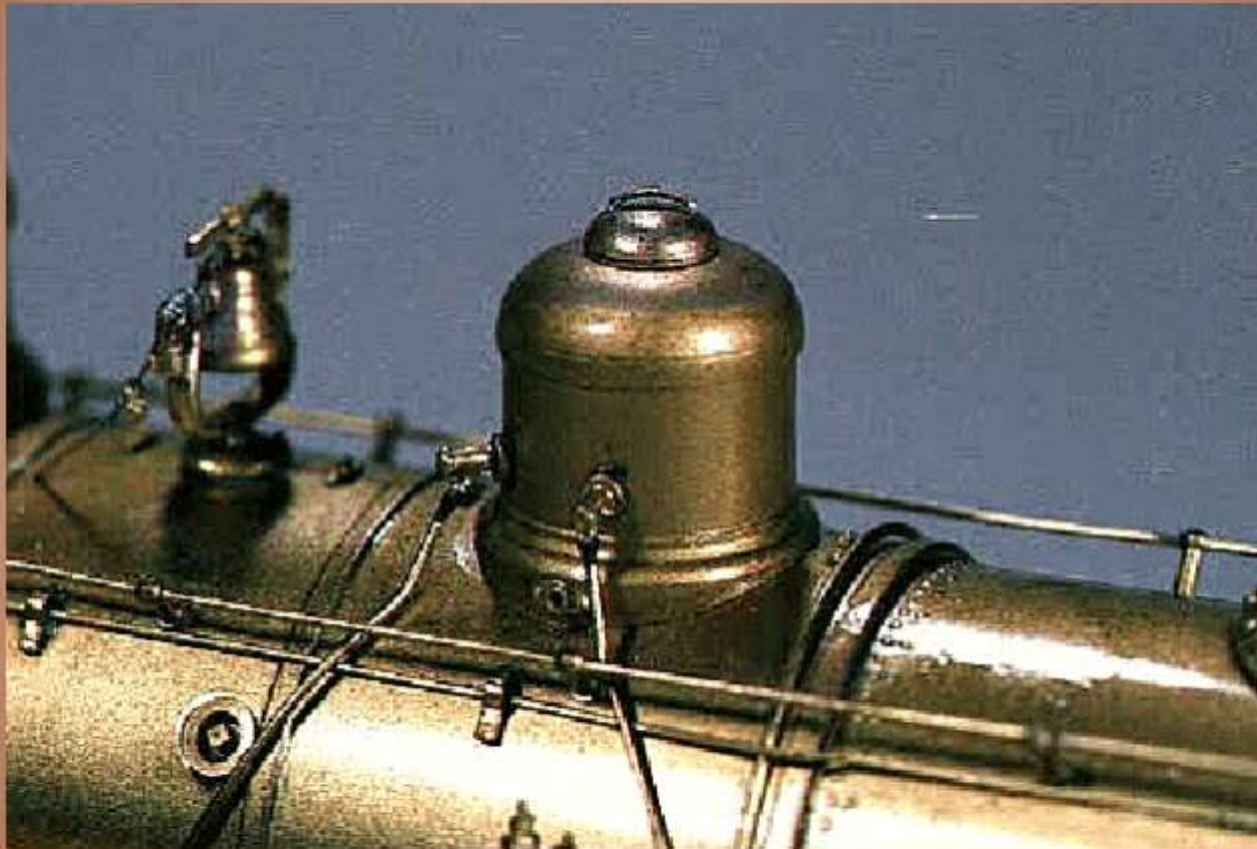
**Bottom Reinforced, Drilled &
Tapped For Easy Removal**



**Strap Step Removed &
New Casting Attached**



**Pilot Toolbox
Soldered In Place**



**Handle Added To
Sand Dome**

Preparing Model For Painting



**Engine Disassembled Into
Basic Components**



Air Honed Pilot



**Tender Truck & Driver
Air Honed and Masked For Painting**

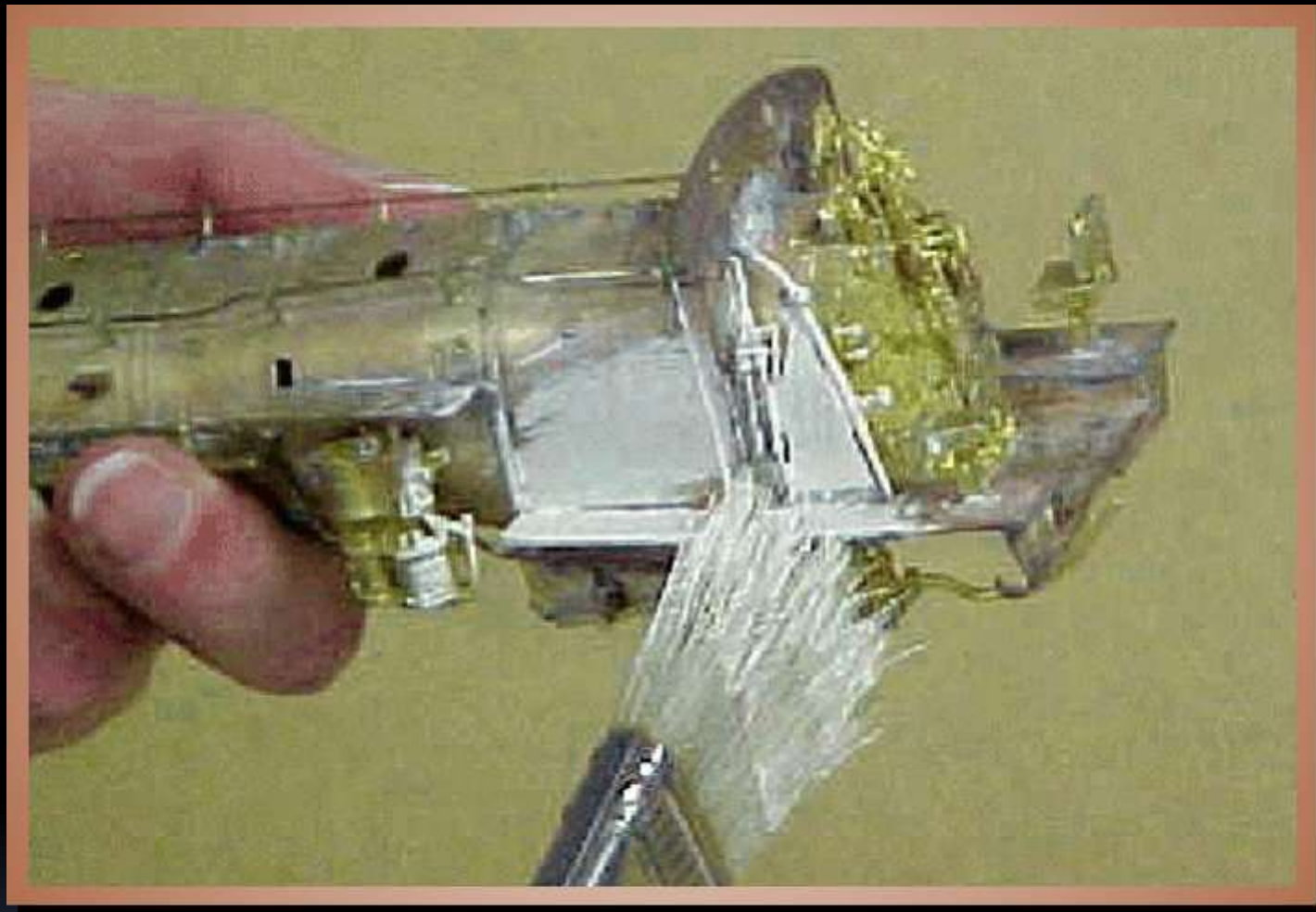


Air Honed Drivers



Single Air Honed Driver

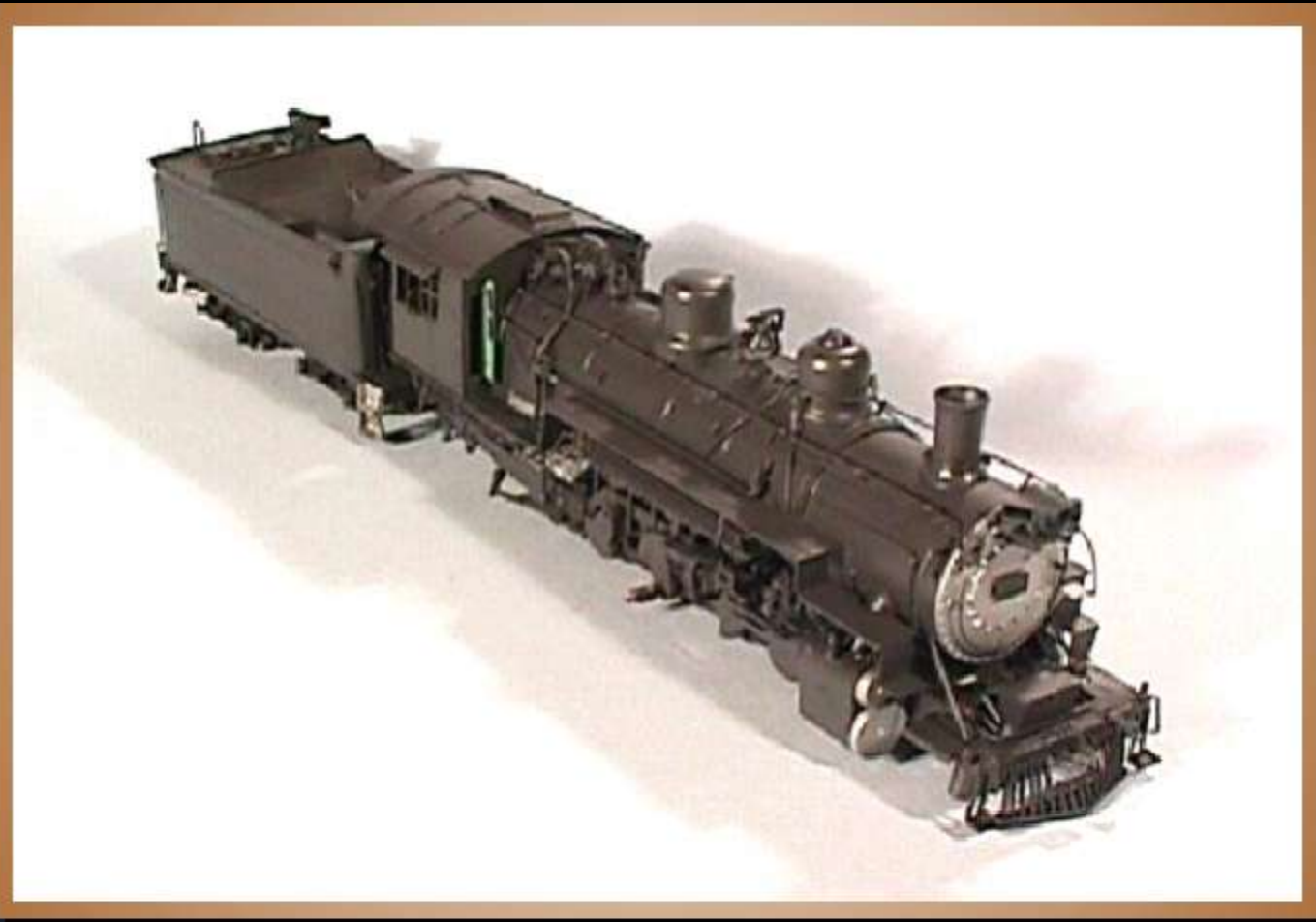
Applying The Paint



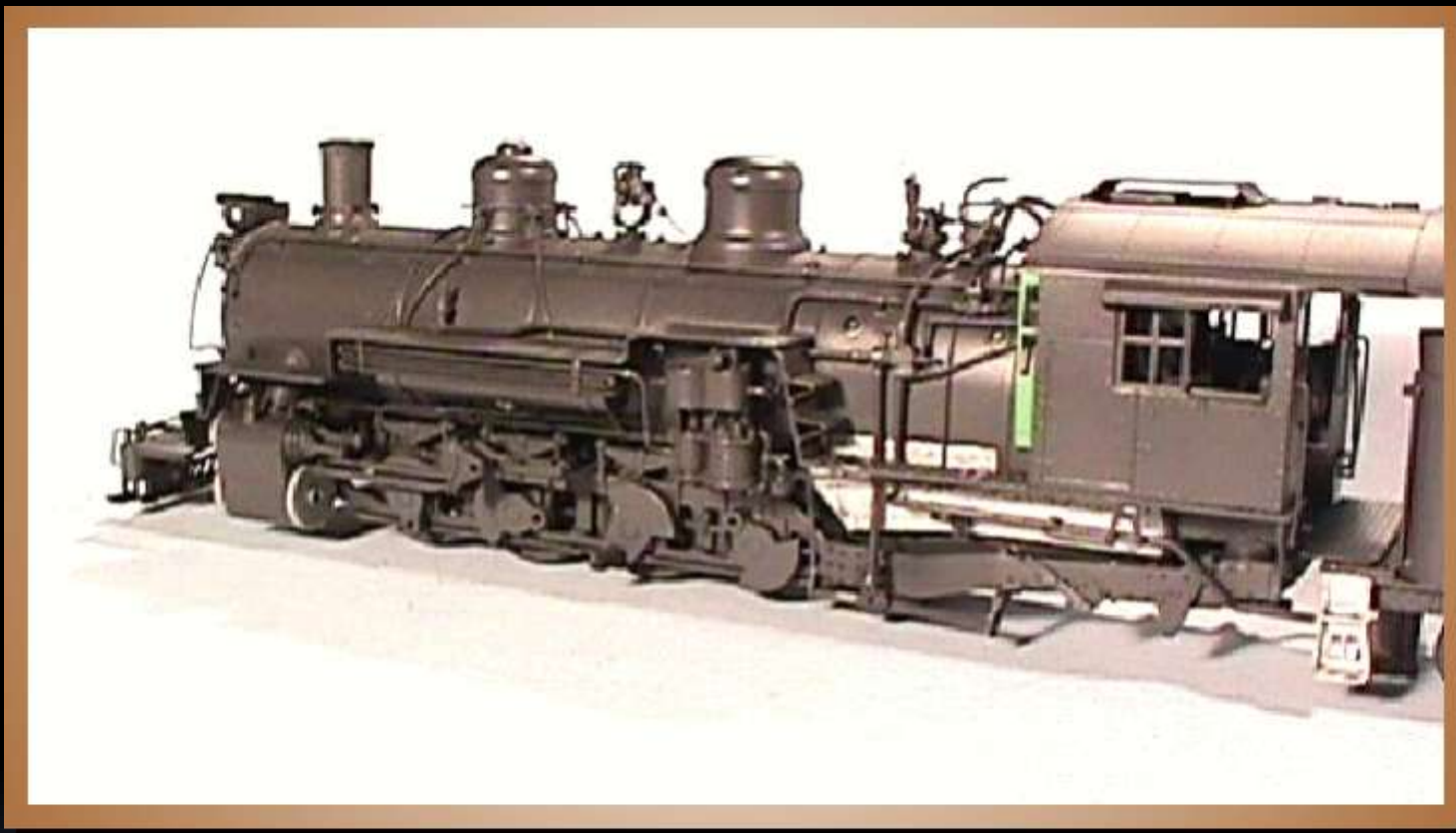
**Painting Techniques:
Brush Style**



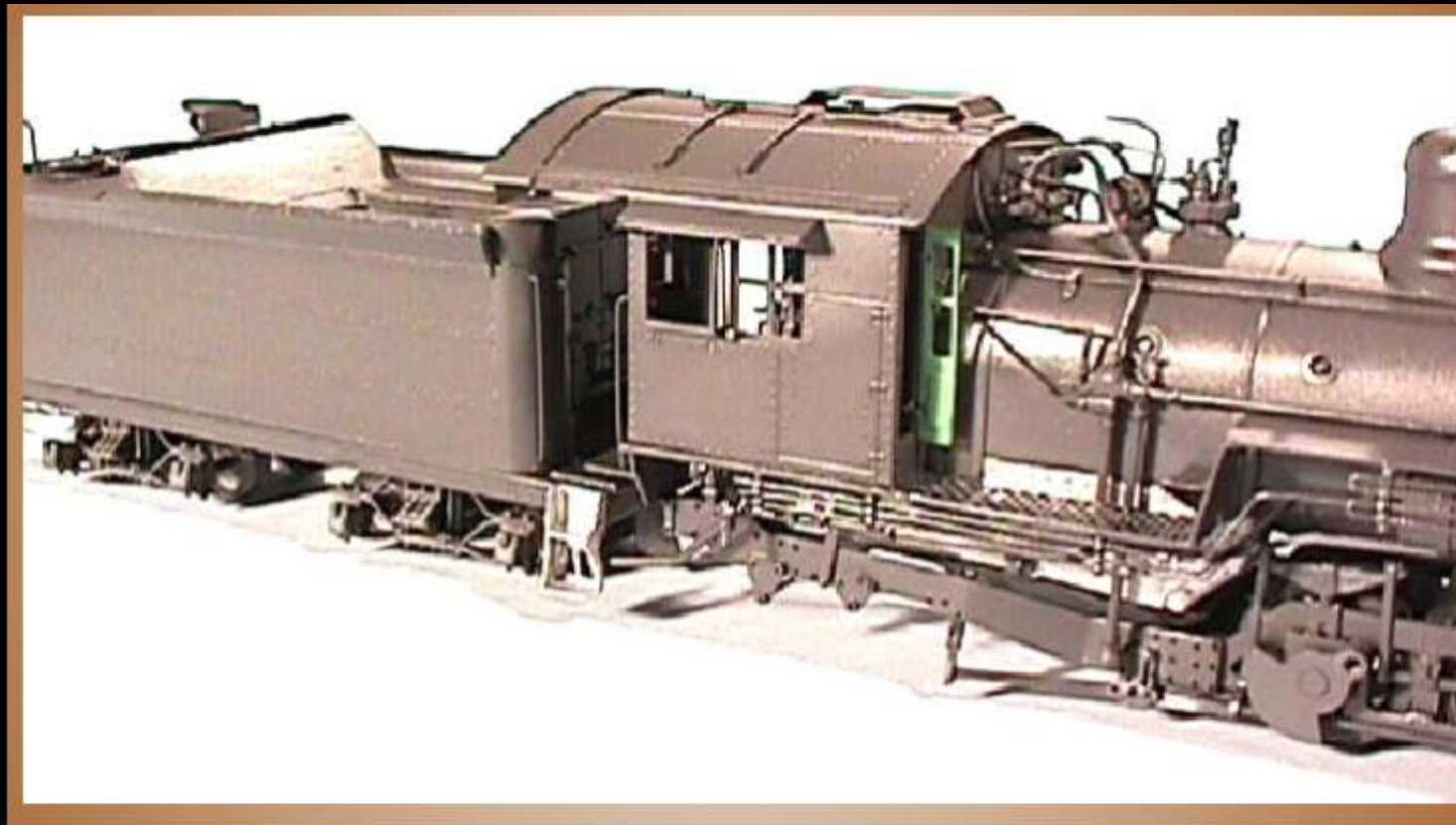
.....or Dunk Method



Painted Engine But No Siderods



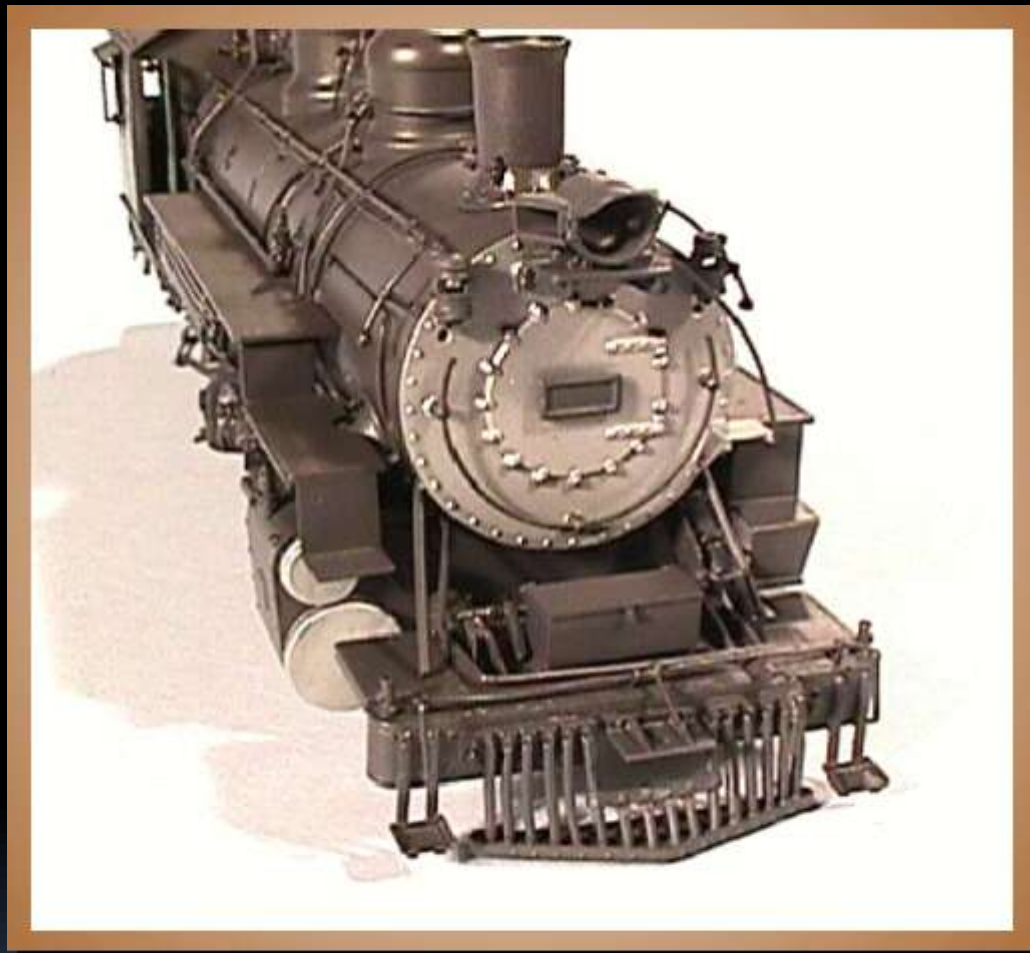
Left Side View



Right Side View With Green Cab Door, Painted Steps and Ashpan



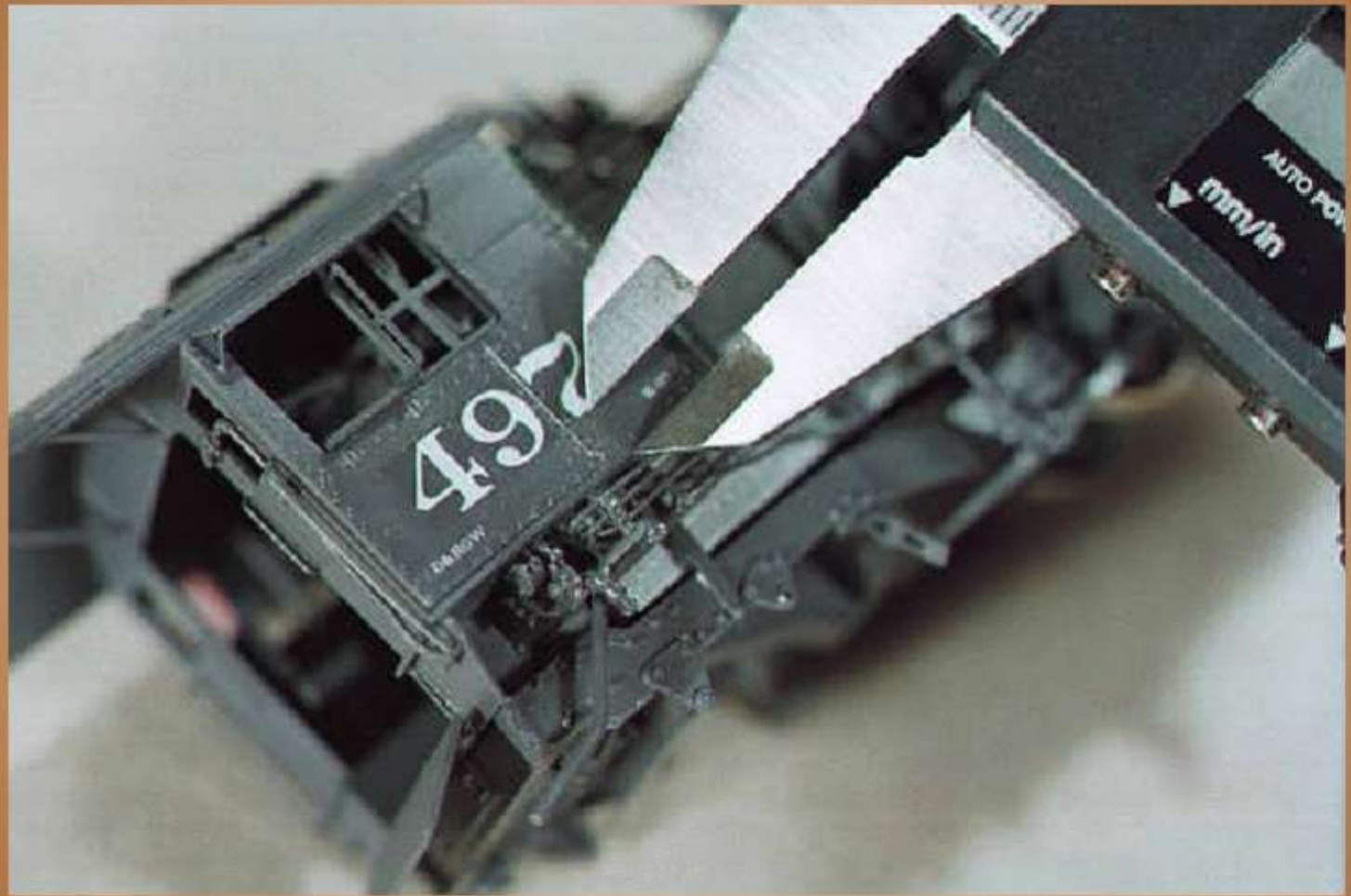
Fireman's Side View



Front View



**Air Brush Painted Boiler Face Plate
Brush Painted Number Plate,
Markers & Headlight**



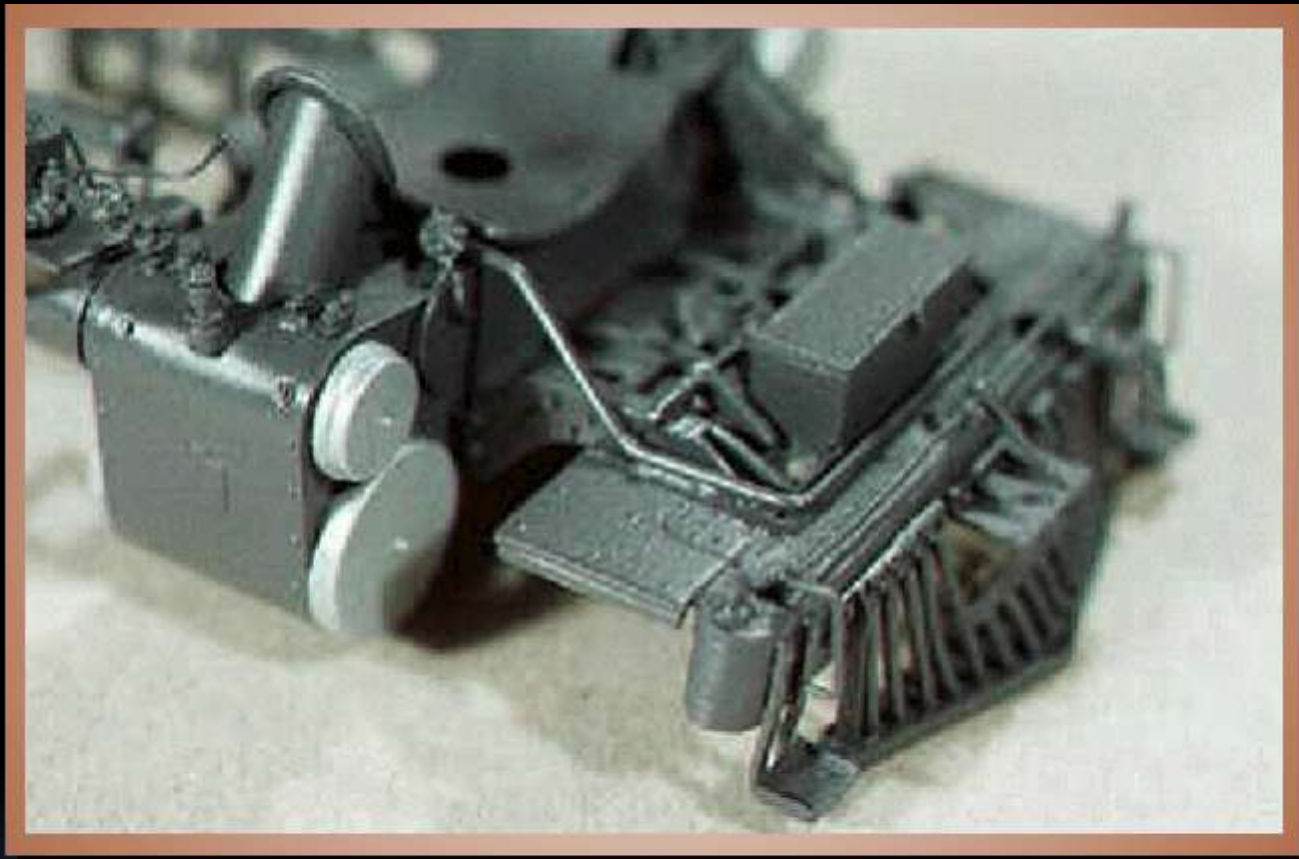
Aligning Decals with Calipers



**Decaling Completed, Then
Air Brushed With Clear Flat Finish
To Seal Decals**



Painted Engine Front Details



Brush Painted Cylinder Covers



Firemans Side View



Newly Shopped Engine



Engine 497 At Work

**Painting
Modification
Necessary**



**Boiler Section Masked For
Painting**



**Boiler Section Painted Flat
Aluminum**



**Freshly Painted
Engine #497**



**Engine 497
On The Mainline**

**Weathering
Added**



**Newly Weathered Engine
With Grime, Soot, Rust
and Water Streaks**



**Soot, Rust, Mud and Grime
Weathering Added**



**Mud, Earth Paint & Rust
Solution Effects**



**Rust and Water Streaks
Added To Piping**



**Smoke Box Painted Silver
and Heavily Weathered**



**Recent Photo of Sand
Dome Piping on Engine
497 at Chama
Photo by Tony Kassin**



**Piping Around Sand Dome
on Current C&TT 497
Photo by Tony Kassin**



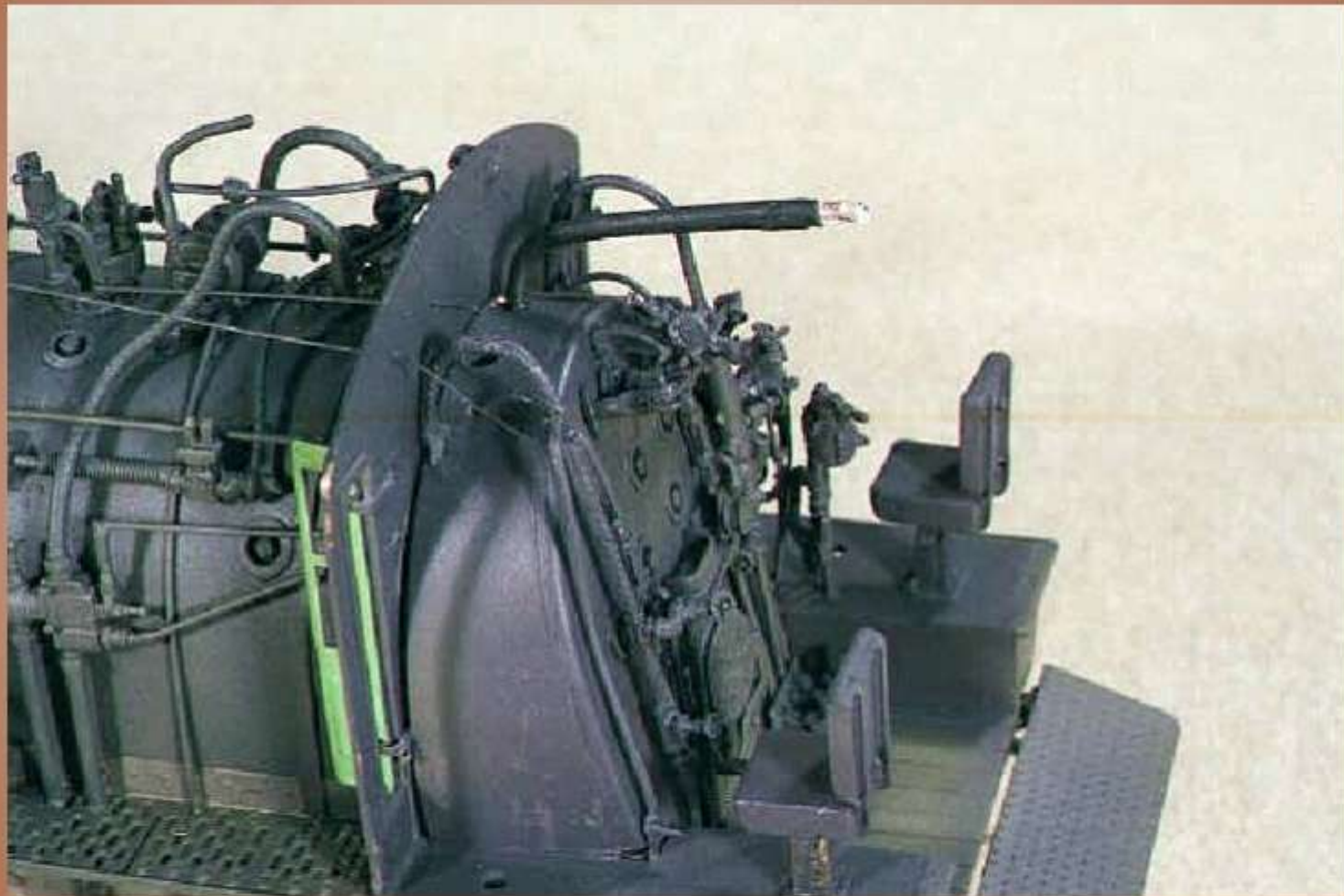
**Additional Piping Added
Around Sand Dome**



**Rust Solution Added To
Tender Deck**



**Orange GOW Bulbs, Circuit
Board for Bulbs and Motor
Reinstalled**



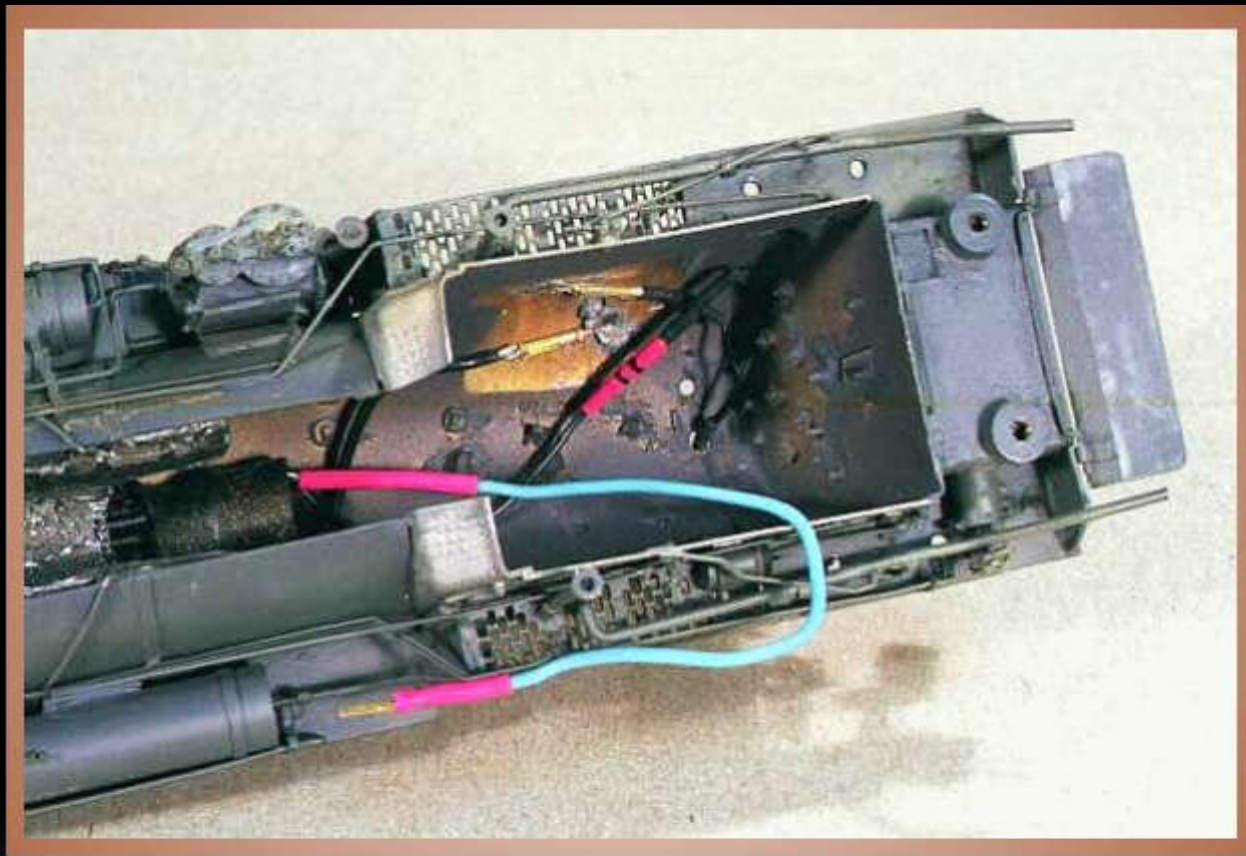
**Micro Bulb Installed
In Cab**



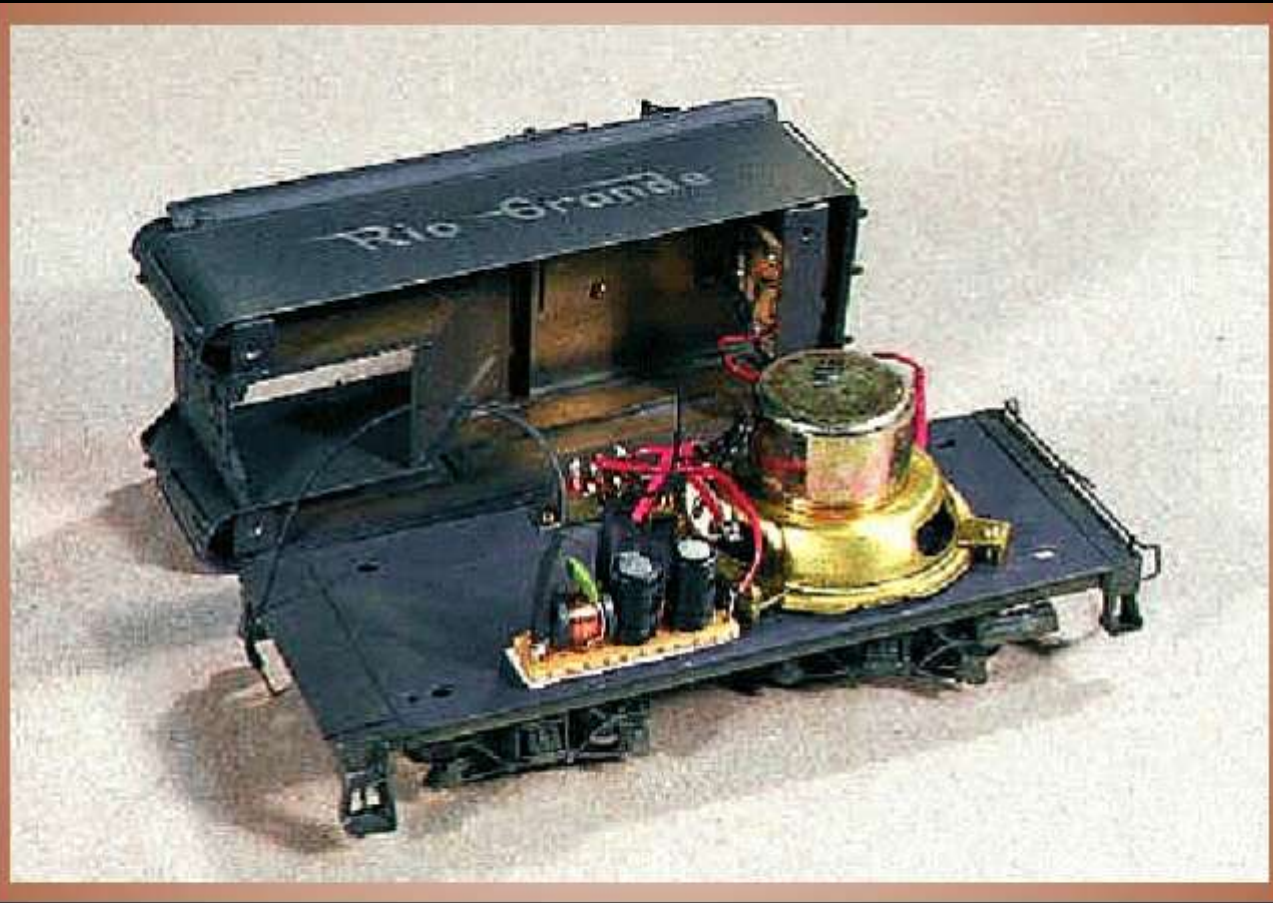
**Light Bulbs Added To
Boiler Face Plate**



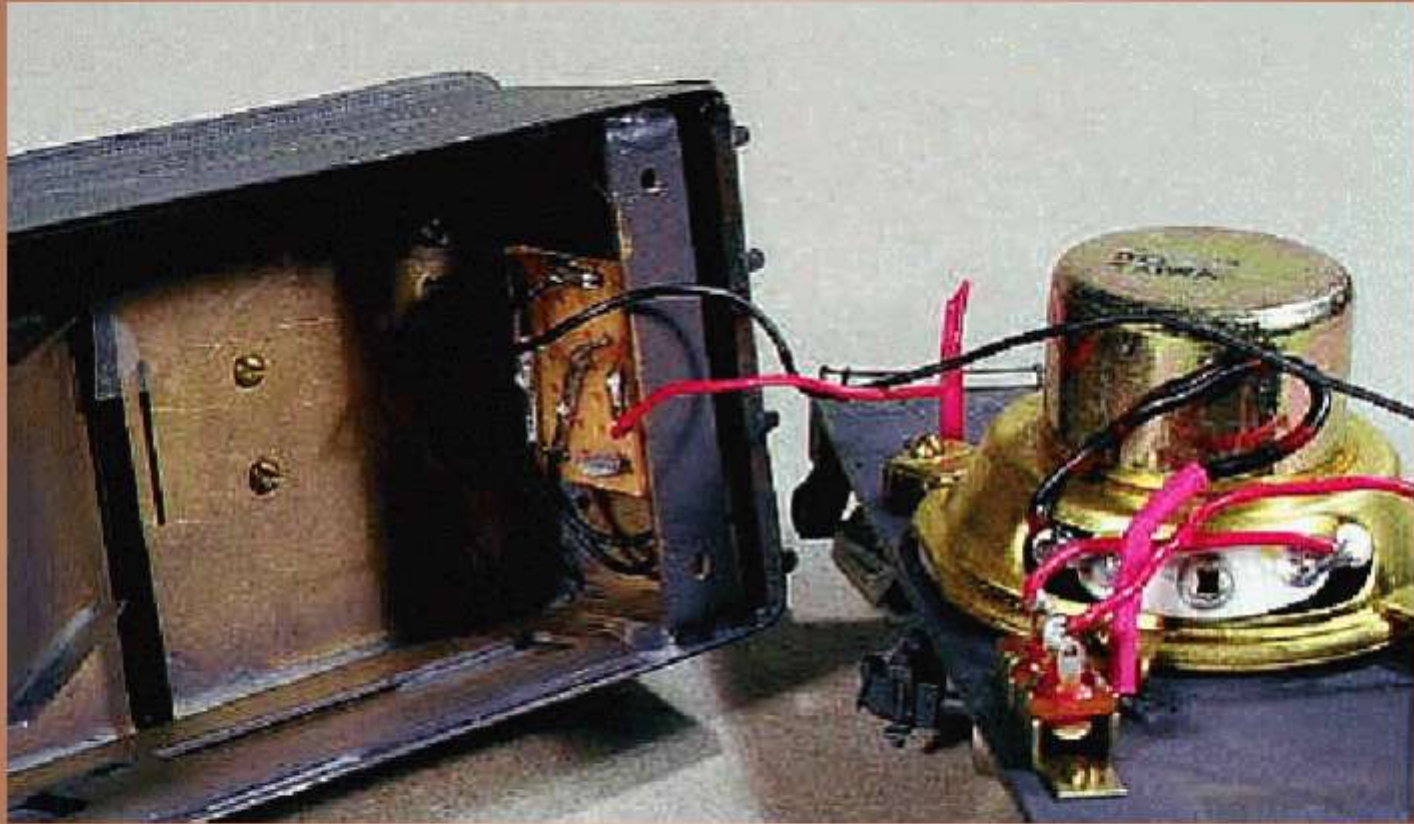
**Boiler Face Plate Internal
Light Connections**



Internal Wiring Connectors



**Speaker & Sound
Components mounted on
floor**

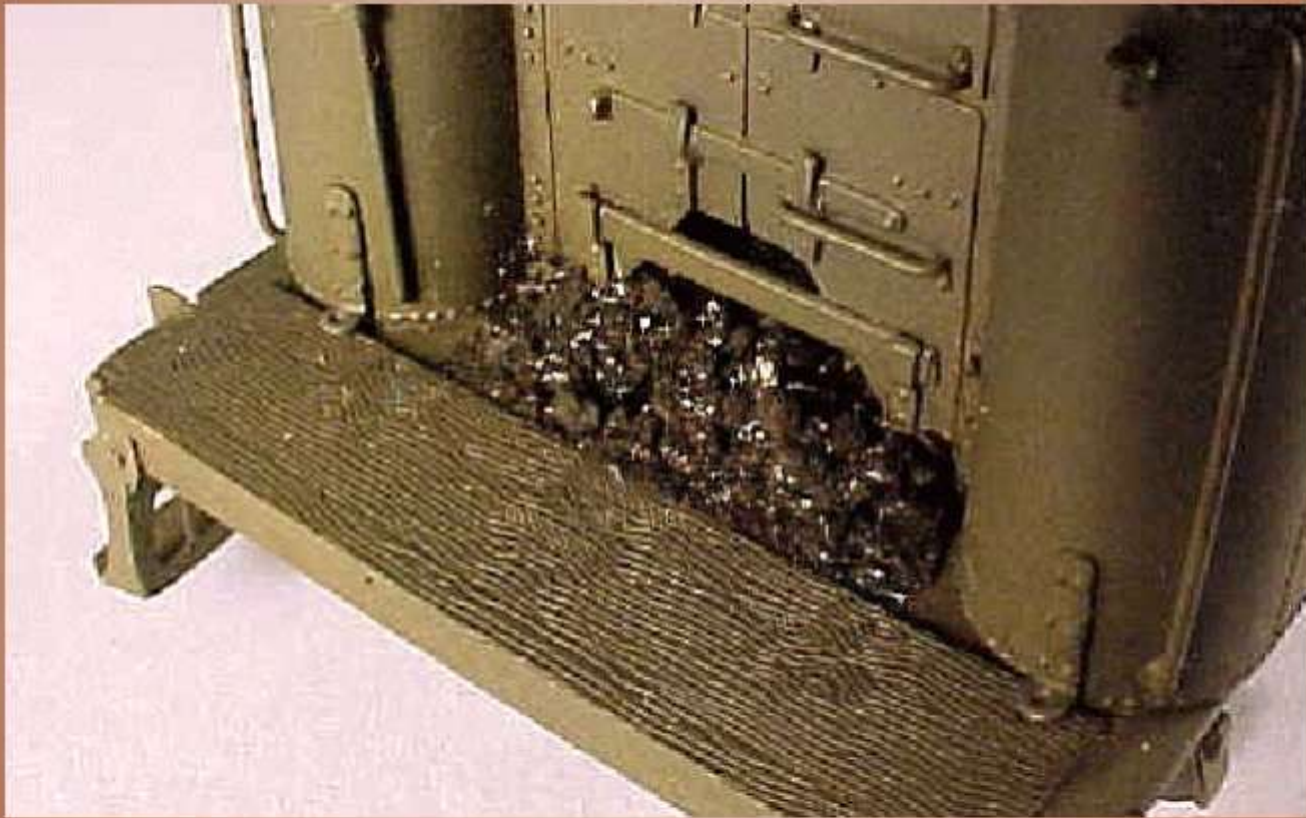


Back-up Light Circuit and Sound Components

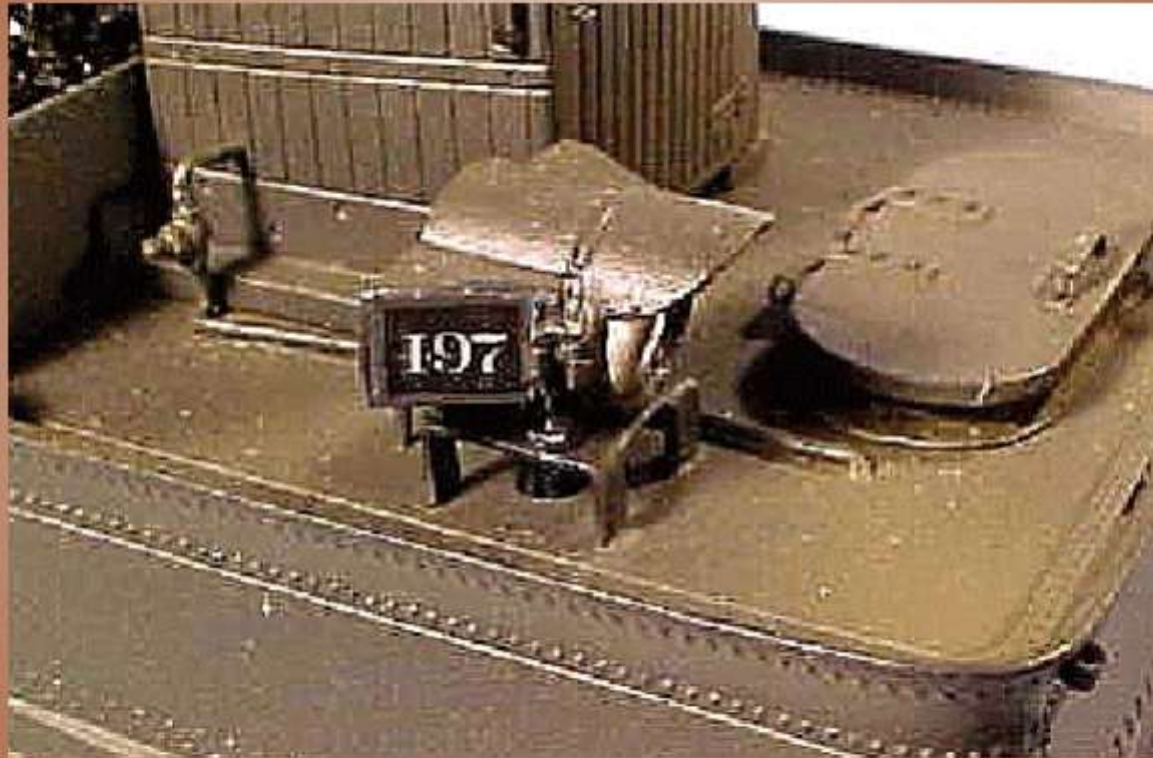
**Final Details
Added**



**Real Coal Was Crushed
and Glued Into Tender**



**Coal Also Glued Below
Tender Doors**



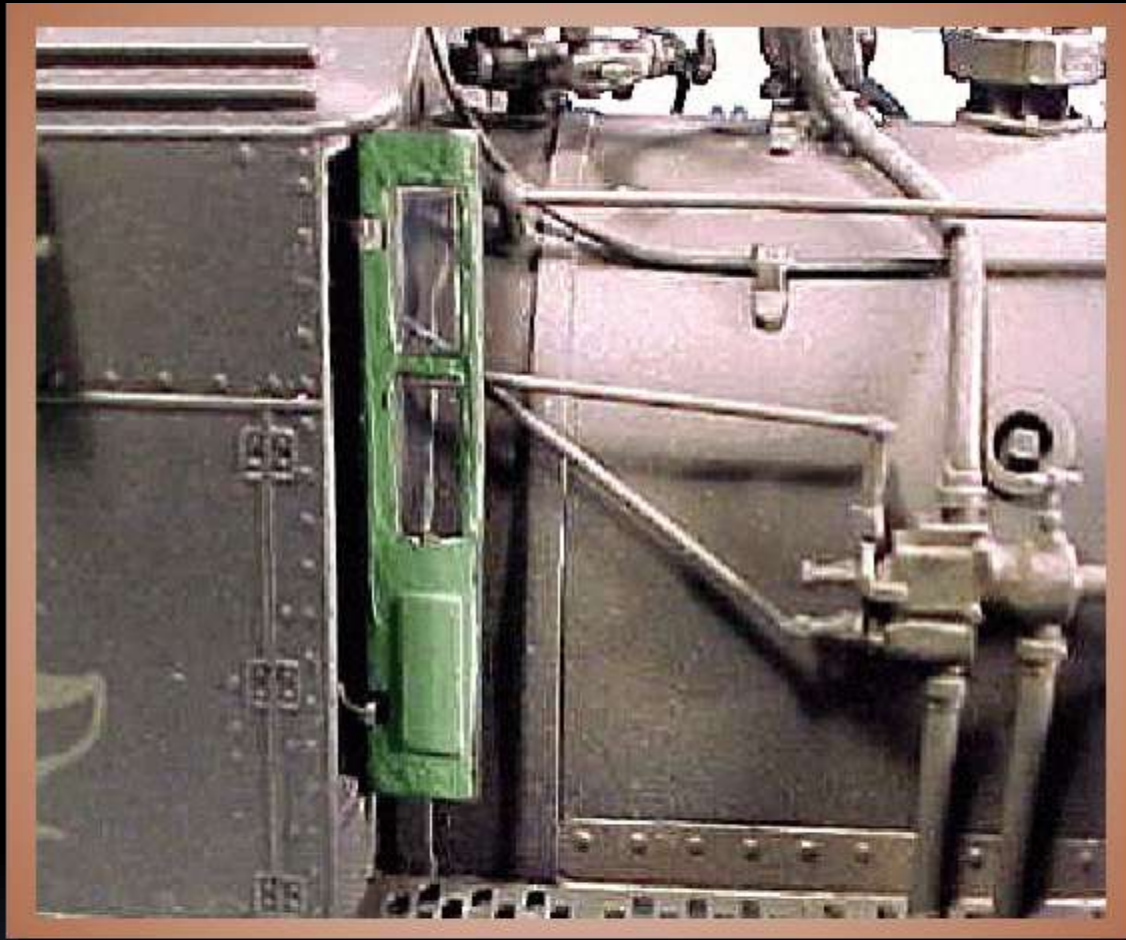
**MV Lens Glued Into
Casting & Kodalith
Number Panel Attached**



**Crew Added and
Real Glass Installed**



Engineer Side View



**Krystal Kleer Used To Glaze
Front Cab Doors**



**Fireman's Side Showing
Glazing**



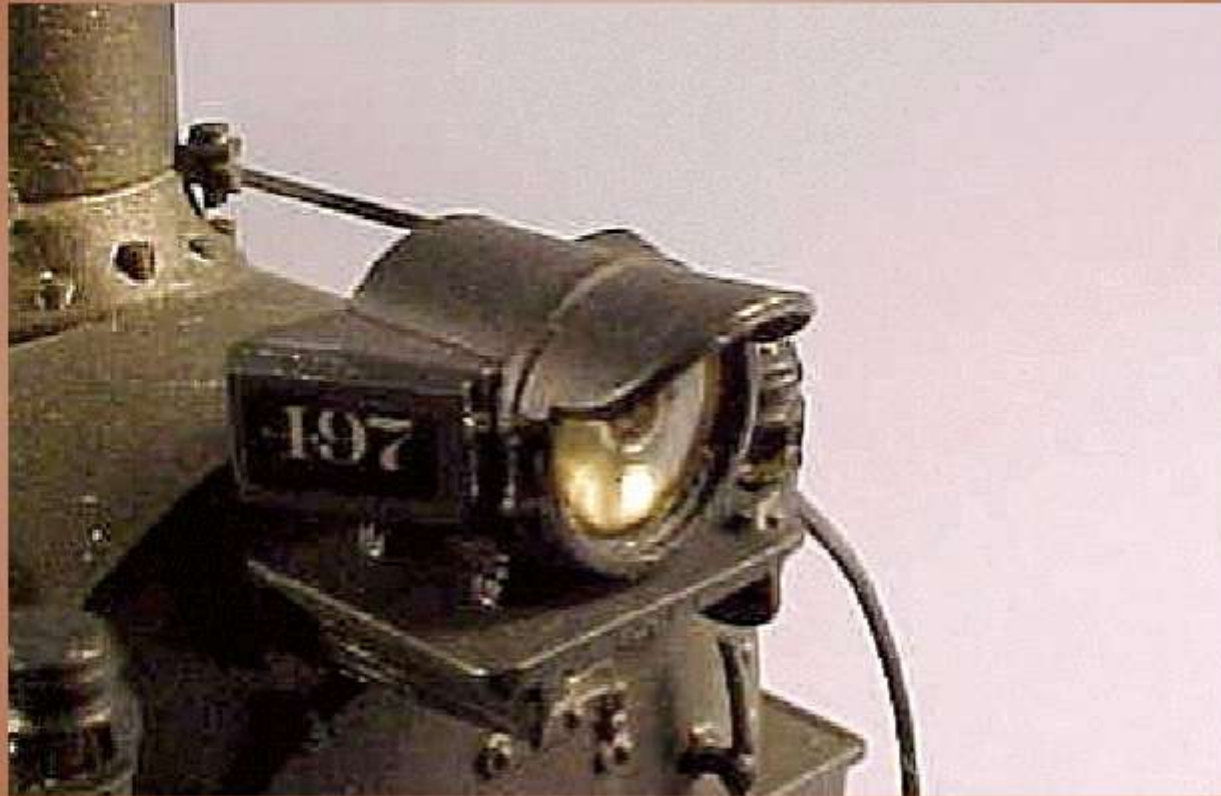
**Ultra-Thin .006" Glass Used On
Side Windows**



**35mm Slide Glass Cut & Fitted
Inside Rear Cab Windows**



**MV Lens In Headlight and
Kodalith Number Panel
Attached With Krystal Kleer**



**Brush Painting Around Number
and Airbrushing With Clear Flat
Completes The Project**

Publicity Scenes Along The Line



**Engine 497 Pauses At
Cimarron Mine**



**Engine 497 Approaching
Silver King Junction Depot**



**Crossing The Silver King Jct
Pony Truss Bridges**



Crossing Tall Timbers Trestle



Preparing To Switch The Mine



Switching Coeur d' Alene Mine



Switching Coeur d' Alene Mine



Moving On Along The Line



Crossing Cimarron Canyon



Pausing At Tall Timbers Depot



Crossing Vista Grande Trestle



Approaching Tall Timber Yard

Misc. Tips and Hints

Shorten Motor/Gearbox Drive Shaft To Reduce Vibrations

Loosen Gearbox Screws To Reduce Growling Sounds

**Isolate Motor With
Double Faced Cushion
Tape or Silicon Caulk**

**Use MV Lenses for
Head & Backup Lights**

**Use Glass Dyes to
Color Firebox Lights**

**Use Calipers or
Dividers to Align Decals**

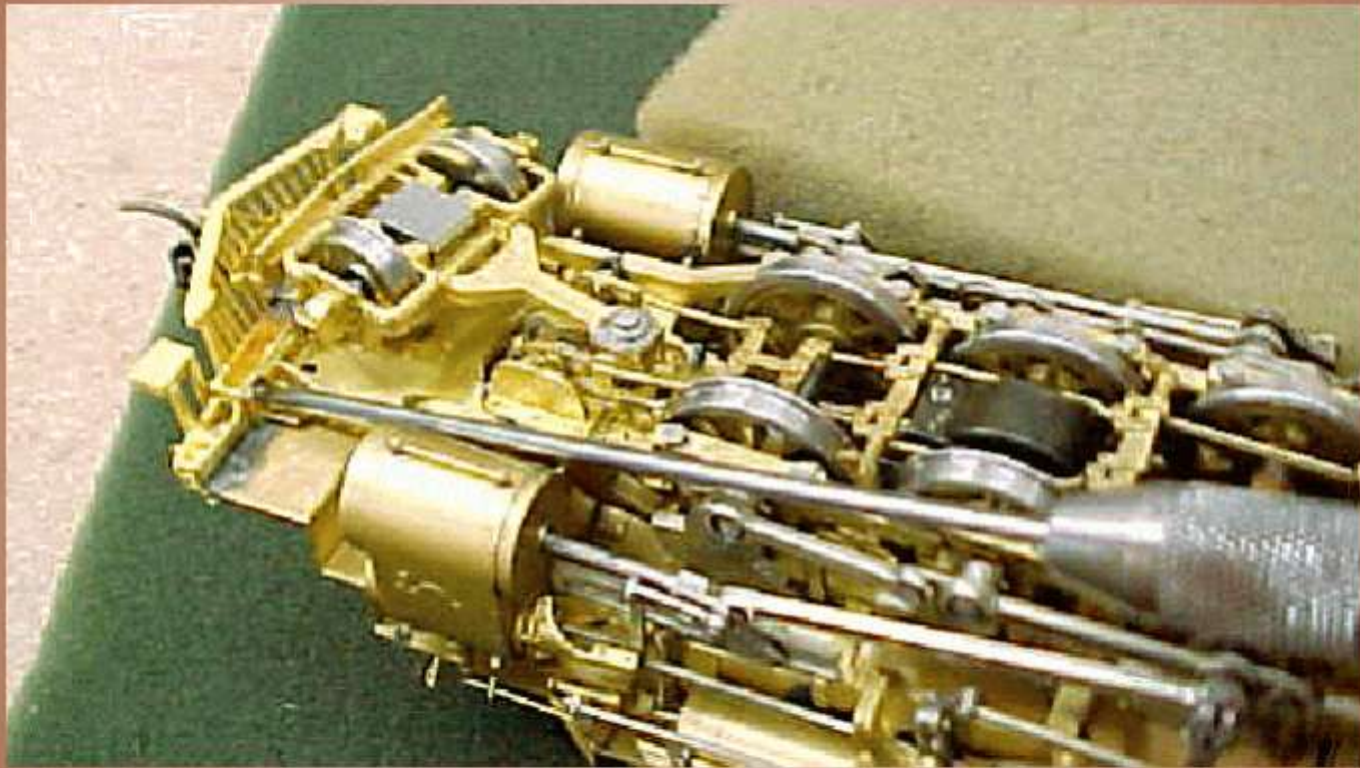
**Make A Simple
Quartering Jig and
Check Wheel Quartering**

**Use “Krystal Kleer” To
Attach Window Glazing
and Number Board
Kodalith Negatives**



**Make Extra Long Screw
Driver from Music Wire**

**Two Standard & One Home
Made Screw Driver**



**Easy To Reach Into Difficult
Locations With Longer
Screwdriver**



**Use Paper To Keep Solder
Connections Loose**



**Paper Inserted Between
Surfaces Is Removed
After Soldering**

Special Thanks to:

**Tony Kassin - Field Research &
Photo Support**

Jim Schulz - Opening Photo Editing

